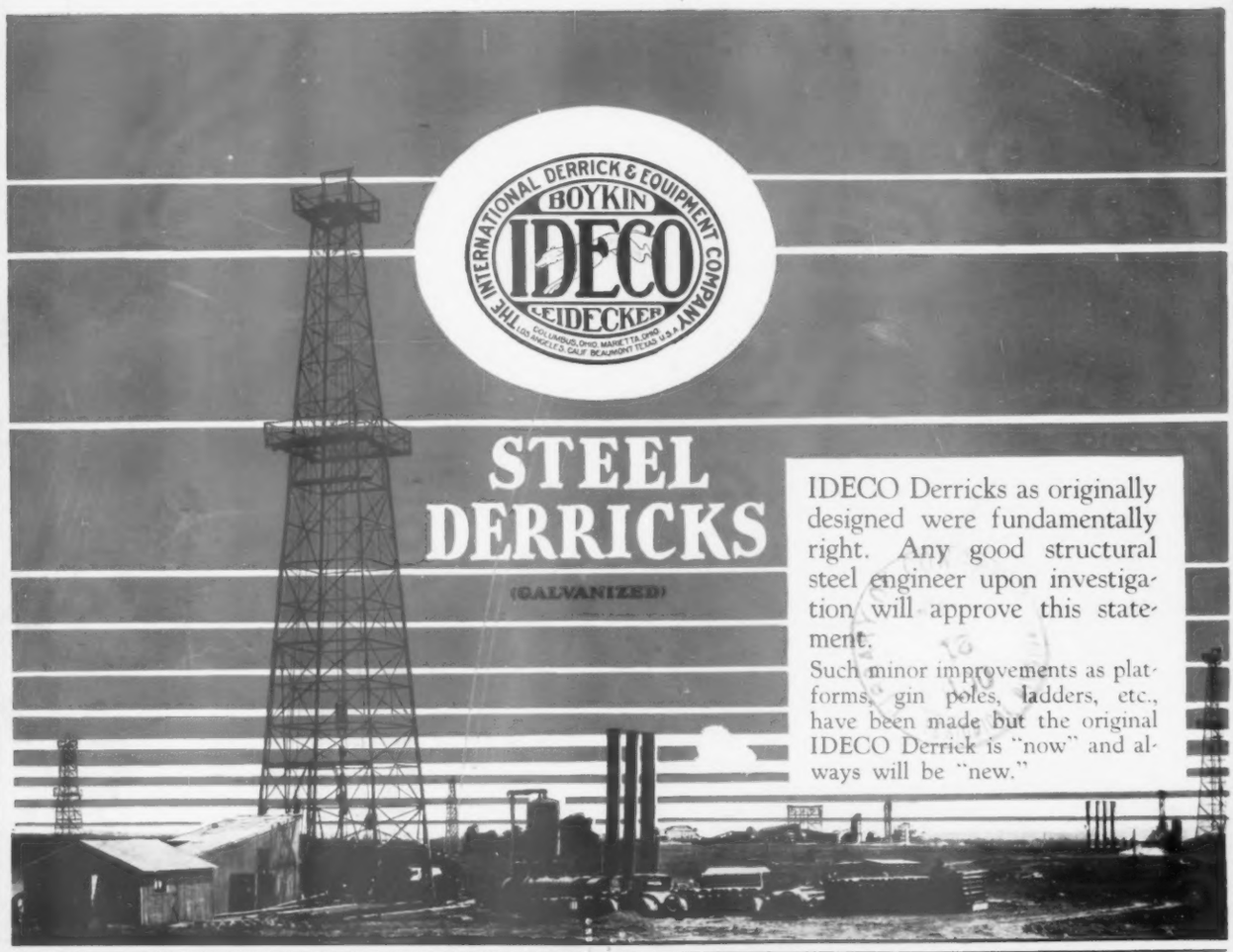
The OIL WEEKLY

15¢ A COPY

Exclusively Devoted To The Production and Transportation of Oil and Gas

Engineering News Statistics

September 19, 1930 — Dec 12, 1930 W. Ehr **Volume 59, No. 1**


THE INTERNATIONAL DERRICK & EQUIPMENT COMPANY
BOYKIN
IDECO
EIDECKER
COLUMBUS, OHIO MARIETTA, OHIO
LOS ANGELES, CALIF. BEAUMONT TEXAS U.S.A.
STEEL DERRICKS
(GALVANIZED)
IDECO Derricks as originally designed were fundamentally right. Any good structural steel engineer upon investigation will approve this statement.
Such minor improvements as platforms, gin poles, ladders, etc., have been made but the original IDECO Derrick is "now" and always will be "new."

THE INTERNATIONAL DERRICK & EQUIPMENT COMPANY
COLUMBUS, OHIO LOS ANGELES, CAL.

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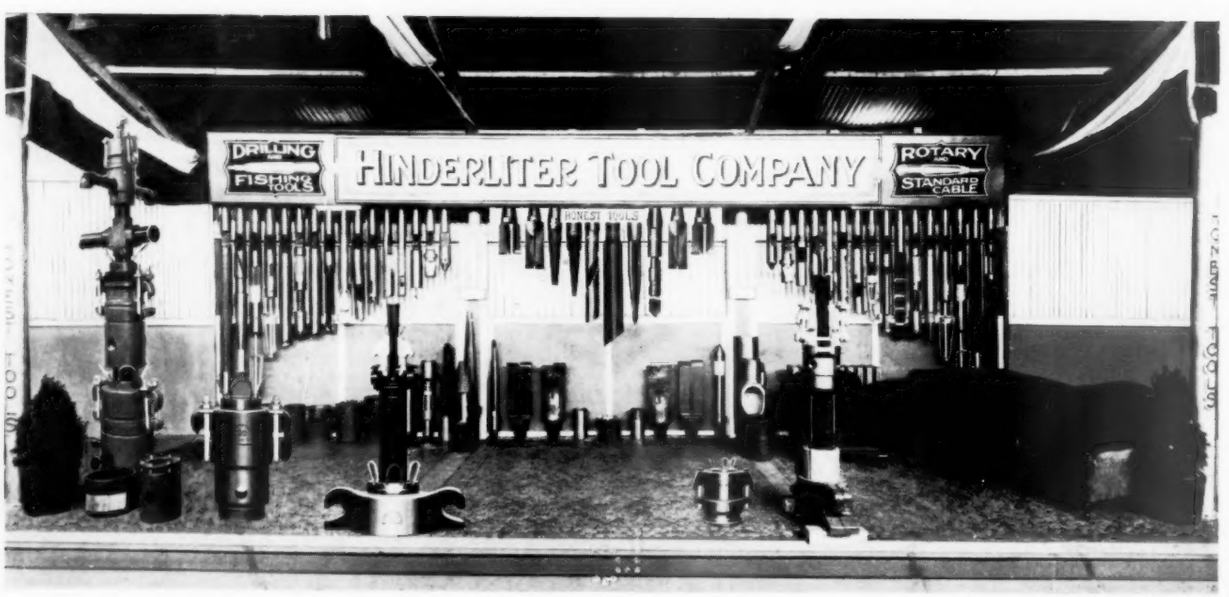


LOOK FOR THIS EXHIBIT

WHERE WE HAVE SOMETHING OF INTEREST TO SHOW YOU

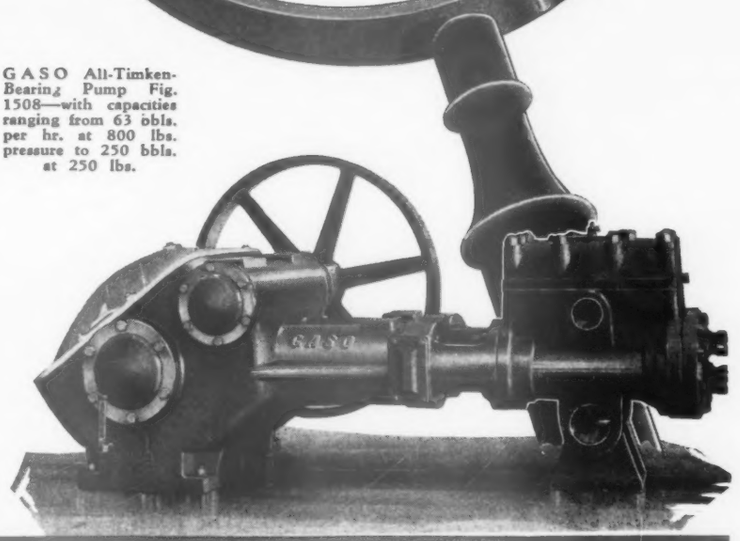
Make Our Booths Your Headquarters

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879

Study the DETAILS of GASO PUMPS

DETAILED examination of GASO Pumps reveals clearly why these pumps are so efficient in the use of power, so durable and so economical to maintain. For example note the connecting rods of GASO Fig. 1508 Enclosed Duplex Power Pump .... made of best grade open hearth steel, H construction, heavy yet carefully balanced, removable babbitt lined steel shell at crank-end, crosshead end fitted with bronze bushing, and all bushings honed to a highly polished finish. In *every* detail GASO Pumps are designed and built for easy running, long life and ease of adjustment.

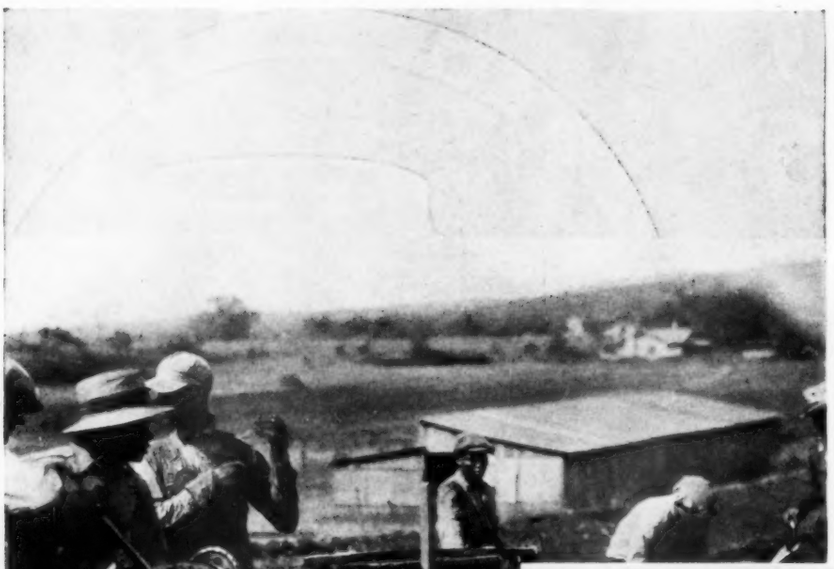
GASO All-Timken-Bearing Pump Fig. 1508—with capacities ranging from 63 bbls. per hr. at 800 lbs. pressure to 250 bbls. at 250 lbs.



GASO PUMP & BURNER MFG. COMPANY
Tulsa, Okla., U. S. A.
Dallas, Texas **New York, N. Y.**

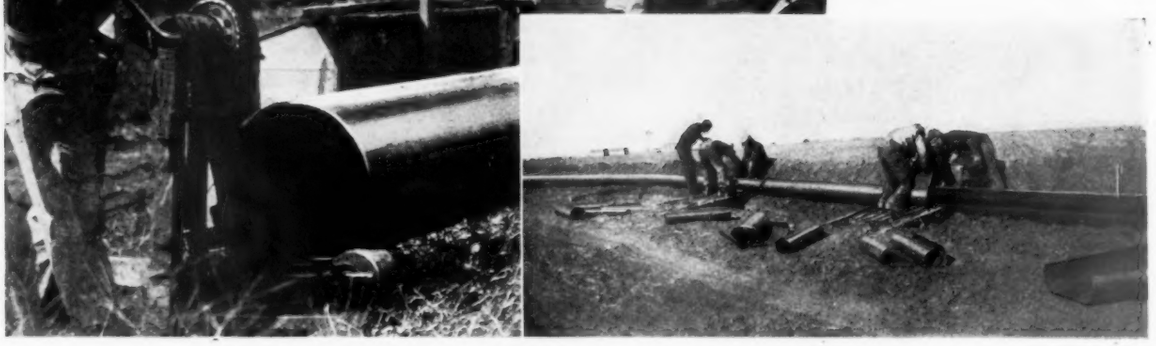
GASO PUMPS
for every oil industry need

How the reenforcement used in



At left is shown application of Barrett Specification Pipe Line Enamel by revolving pipe method. Pipe turns away from pouring operation and the operator on opposite side spreads the coating to an even flow. No air or moisture will penetrate this homogeneous film.

Barrett Pipe Line Felts especially designed to reenforce hot enamels, are included in several Barrett Specifications to combat unusual soil conditions. They are strong enough to withstand exceedingly tight wrapping stresses when heated by hot coatings as well as the rough handling to which they are subjected during construction.



For pipe of large diameter The Barrett Company will furnish equipment required to revolve pipe and spread enamel.

HERE are several interesting facts about the internal *reenforcement* used in Barrett Specification Pipe Line Enamel. They clearly attest the greater efficiency of pipe line protection provided by Barrett formulas.

Perhaps of greatest importance is this fact: That Barrett uses a flake-type *reenforcement* as distinguished from ordinary dust-type *filler*. This *reenforcement* is of such structure and character that a greater percentage of coal-tar pitch, the best known waterproofing agent, can be used—and is found in Barrett Pipe Line Enamel. And remember it is the quantity and quality of coal-tar pitch in pipe enamels which determines their waterproofing efficiency.

Another notable fact is that this flake-type *reenforcement* laminates in association with the pitch—and adds tensile strength and toughness to the finished enamel.

This flake-type *reenforcement* is also highly dielectric in combination with the insulating properties of bitumen used. It is made from a material admitted to be one of the best electric insulators known.

Still another fact: In using this flake-type *reenforcement* the point of adequate flow is at lower temperatures which reduces fumes to a minimum and saves fuel at the time of application. In addition it is non-porous, non-absorbent and chemically inert.

Barrett Anti-Corrosion Products and Specifications are the result of 76 years' experience in producing waterproof and weatherproof protection. In these years of experience there were produced such other

Barrett Specification PIPE LINE ENAMEL

provides a thick, sound pipe coating

This photo-micrograph shows how flakes of the internal reenforcement used by Barrett tend to interlock. They laminate with the waterproofing agent, giving Barrett Pipe Line Enamel unusual tensile strength and toughness.

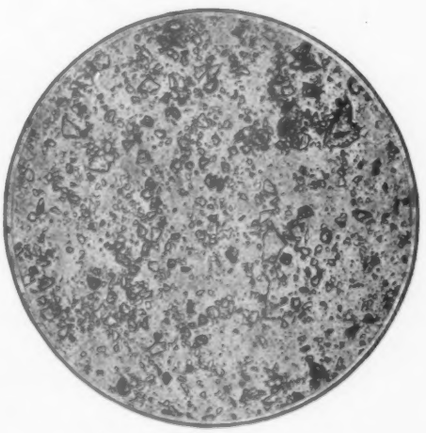


Photo-micrograph above shows how the granular or dust-type filler looks. It is composed of tiny smoothly surfaced particles in loose contact.

internationally used Barrett products as Barrett Specification Roofs, Tarvia and Barrett Underground Waterproofings for tunnels, dams, subways and the like.

The Barrett Company is organized to give you the closest and fullest cooperation from beginning to end of the pipe laying job.

This procedure of determining the filler or internal reenforcement content of pipe line enamel is a standard of the American Society for Testing Materials.

BARRETT SEPECIFICATION ANTI-CORROSION PRODUCTS

Made to meet all the many different conditions of pipe line constructions. They include felt reenforced enamels for rivers, swamps and other extreme conditions; enamels to be applied hot in less corrosive sections; cold applications for still less corrosive parts.

The *Barrett* Company

40 Rector St., New York

TITAN

for Maximum Speed and Efficiency In Drilling Operations

TITAN is the world-famous product that makes good bits better—gives them diamond-hard cutting surfaces—insures fast, easy penetration of all formations—*and keeps the bits to size and gauge as they dig.*

This hard, tough material is supplied in two forms—Titan Metal, in graded sizes for inserts, and Tube Titan Metal—granular form—in handy ten-inch tubes for facing.

Titan is adaptable to every type of bit. It is of uniform texture and hardness—is both easy and economical to apply—bonds perfectly and will not crumble nor break away.

Write or wire us for complete information, performance records and other interesting data.

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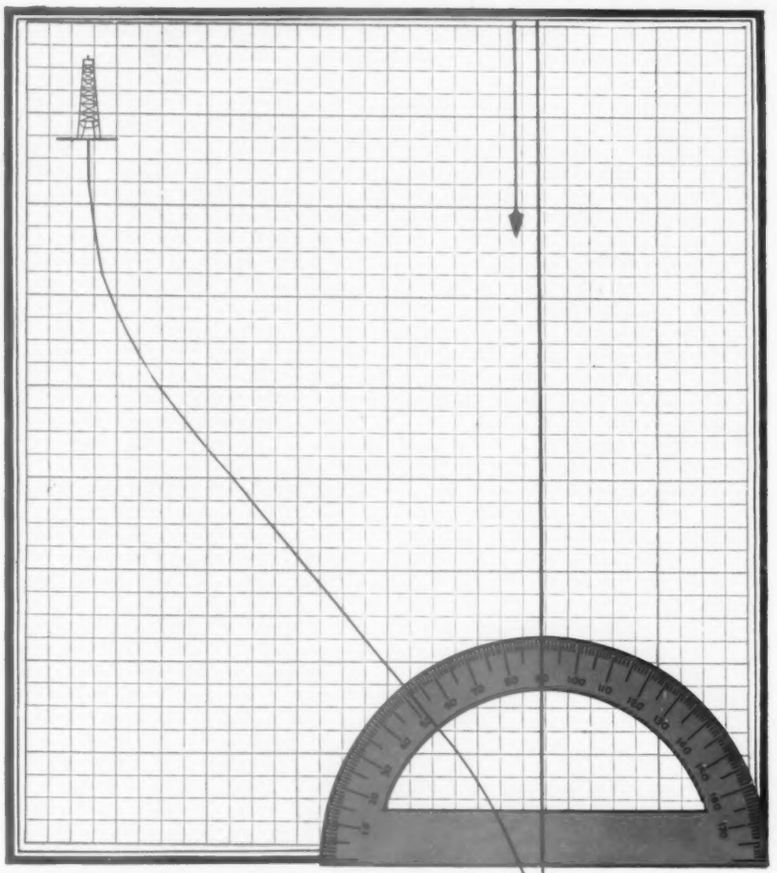
TITAN Metal and Tube Titan METAL

The manufacture of Titan is fully covered by patents—infringements will be prosecuted.

Canadian Well 38° off Vertical



They had to install BETTIS PROTECTORS to complete the well

One of the most crooked wells in Canada has been completed with the aid of Bettis Protectors. At a depth of 3,000 feet the well was 1186 feet off center or 38° off vertical. 3-inch drill pipe rotating inside of 5-3/16-inch casing was equipped with Bettis Protectors and the well was straightened and completed to a depth of 5,500 feet. The well could not have been completed without the Protectors; the casing would have worn through, declares the owner.

A large number of Canadian wells are crooked, making absolutely necessary the use of Bettis Protectors.

FULLY PATENTED

"Best bet yet!"

Patterson-Ballagh Corp.

Insurance Exchange Building, Los Angeles

Texas and Gulf Coast Distributors:
BETTIS SALES CO., 917 Merchants & Mfrs., Bldg., Houston

Oklahoma Distributors:
BAILEY & BECKER COMPANY, 410 Thompson Bldg., Tulsa

New York Office: 39 Cortlandt St.

Carried in stock at Los Angeles, Ventura, Kettleman Hills, Bakersfield, Coalinga and Long Beach, California. Tulsa and Oklahoma City, Oklahoma. Houston, Texas. Hobbs, New Mexico. Calgary, Alberta, Canada. New York City.

WHAT'S MISSING
In This Picture?

THE most important thing of all — the belts. *And* — any old belts won't do.

They've got to fit the sheave. Yes! But more than that. They've got to fit it RIGHT.

In the exact shape of the sheave every Gilmer V-Belt is moulded, layer upon layer. Strength, ruggedness, stamina are guaranteed by the specially processed rubber and the stout, tough cord placed at the neutral axis — an original Gilmer feature.

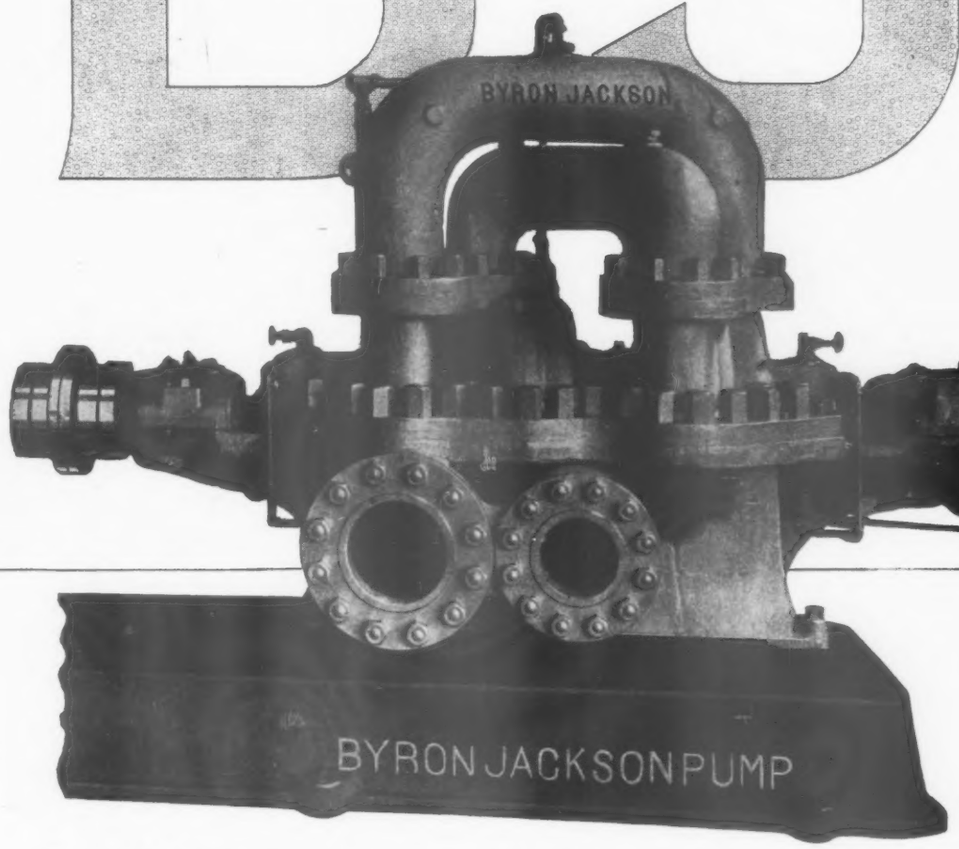
Remember. Just as vital as fit — is the *way* they fit. Not touching the bottom of the sheave where wear and slipping occur, but the sides. — It's the hardy, husky shoulders of the Gilmer V-Belt that month after month are solving the endless belt problems of American Industry. Try a set soon on your single and multiple drives. L. H. Gilmer Co., Tacony, Phila., Pa.

Note the extremely rugged construction of the Gilmer belt. Note the layers of extra-strong cord placed at the neutral axis, an original Gilmer feature. Also the specially prepared rubber, and the sturdy canvas jacket which encloses the entire belt. This belt is scientifically built up in a mould the exact shape of a sheave so that perfect fit is certain. These factors account for the great strength and efficiency of the Gilmer V-Belt.

Gilmer

Makers of the World's Best-Known V-Belts

PIPE LINE PUMPS



Byron Jackson pumps have brought about a new era in pipe line pumping. Their steady flow forces the maximum capacity through the line. In addition, these pumps are low in first cost; easy to install or to be moved to a new location; ideally suited for direct connection to either electric motors or steam turbines; inherently safe and reliable; may be controlled automatically in booster stations; inexpensive to operate. Stocks are maintained at strategic points throughout the oil fields.

[You cannot buy a better pump. Ask us to figure your next job.]

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Factories: BERKELEY, Los Angeles, Visalia, Calif.
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BYRON JACKSON

CENTRIFUGAL PUMPS FOR EVERY SERVICE

From the 4th to 11th of next October, the world-wide petroleum industry will center at the International Petroleum Exposition and Congress in Tulsa. Men from every country where oil is found will again meet at this great international market of petroleum equipment. The most important associations within the industry will meet in the Exposition auditorium during this period.

INTERNATIONAL PETROLEUM EXPOSITION
and Congress
Tulsa Okla.
Oct. 4-11 1930

In an enlarged Exposition plant, with more space, more buildings and better facilities than ever before, there will again be demonstrated the very newest developments in methods and machinery for prospecting, producing, refining, transporting and marketing petroleum and its products.

Plan NOW to attend. For any information, address Wm. B. Way, Gen. Mgr., International Petroleum Exposition, Tulsa, Okla., U. S. A.

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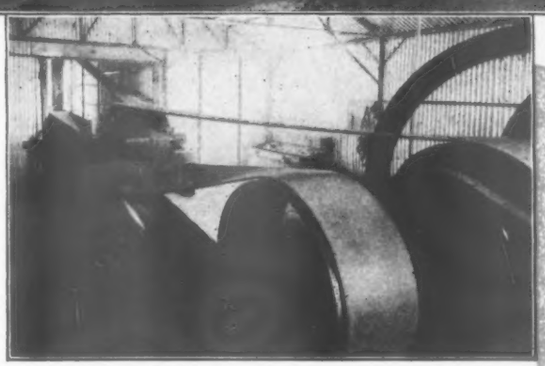
IN THE CONTINENTAL SUPPLY COMPANY TWO CYCLE GAS ENGINE

BUILT BY FAIRBANKS-MORSE

60 H. P. Continental Gas Engine



Continental Reverse Counter Shaft on beam well at Oklahoma City

"If Continental Sells It....There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: ST. LOUIS 7833

THE CONTINENTAL SUPPLY CO., LTD.
224 Traders Building, Calgary, Alberta, Canada

Export Offices: CONTINENTAL EMSCO COMPANY, INC., 74 Trinity Pl., New York

London Offices: 316-17 Dashwood House, Old Broad St., E. C. 2
CONTINENTAL EMSCO S. A. R., 7, Strada Eminescou, Ploesti, Romania

CONTINENTAL

NEW

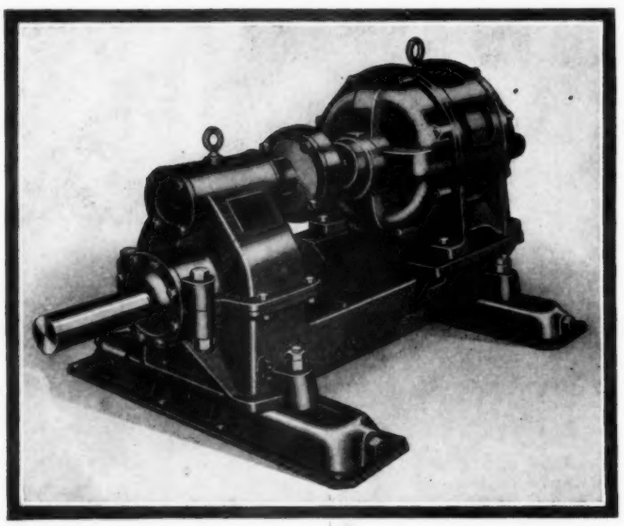
Single Reduction Gears

with

MORE

electric pumping

Advantages



A complete Westinghouse electric pumping drive unit with the new single reduction gears.

FOR obtaining direct drives on electrically operated band-wheel pumping equipment, Westinghouse-Nuttall single reduction gears of a distinctly new type have several important advantages over previous types of units for this purpose.

They are smaller and 20 per cent lighter than former types, yet equally as strong and durable.

The three units, types OP-6, OP-7 and OP-8, are specially designed for use with 15/35, 20/50 and 25/65 horsepower motors, respectively. This assures properly balanced drive units with greater efficiency of operation.

All units have exactly the same foundation mounting dimensions. Thus, when variations in well conditions call for increased power, an entire drive unit can be replaced by another without changing the foundation.

Outstanding construction features of these units are single helical gears, and Timken bearings. Their smooth-running and power-saving qualities, combined with the extraordinary strength and wear-life of BP "tough-hard" gears and shafts, assure years of cost-saving performance.

Detailed information on these new units is available from the Oil Well Supply Company, located in all oil fields, or from the nearest Westinghouse Sales Office.

Service, prompt and efficient, by a coast-to-coast chain of well-equipped shops

Westinghouse

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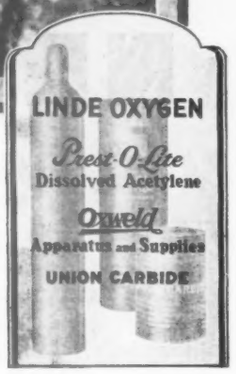
TUNE IN THE WESTINGHOUSE SALUTE OVER THE N. B. C. NATION-WIDE NETWORK EVERY TUESDAY EVENING.



OXWELDING
The Standard Practice

Oxwelding under Procedure Control is a proven method of insuring satisfactory and economical results in joining oil and gas pipe lines.

Linde Procedure Control has made oxwelding standard practice in the petroleum industry. Progressive engineers specify it wherever strength, dependability and permanent tightness count most.

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Units of UNION CARBIDE AND CARBON CORPORATION

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65 Linde plants...48 Prest-O-Lite plants...174 Oxygen Warehouse stocks...156 Acetylene Warehouse stocks
42 Apparatus Warehouse stocks . . . 245 Union Carbide Warehouse stocks.

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NEVER FAIL!

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In Bridgeport's 14 Branches you have a convenient source of supply anywhere in the Mid-Continent Fields. Every store maintains a full supply of HUGHES Rock Bits and Cones, Core Bits, Tool Joints, Valves and Fittings—and backs them up with SERVICE as unfailing as the tools themselves. ORDER YOUR HUGHES TOOLS THROUGH BRIDGEPORT. . . . 14 Branch Stores open Day and Night, 365 Days a Year. . . All Tools Guaranteed. . . Truck Service at Every Store, to facilitate immediate delivery.

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BRIDGEPORT MACHINE COMPANY

MONARCH OF THE PLAINS

WICHITA KANSAS

BRANCHES THROUGHOUT THE OIL FIELDS

PEAK drilling efficiency

See our Exhibit Tulsa Exposition Booths 63 and 64, California Bldg.

"M-5" Drilling Bit

Type "B-2" Drilling Bit

Model "M" Rock Bit and 3-Point Roller Reamer

Bits scientifically designed to make hole in perfect step with modern demands for higher speed and lower costs—more hole and longer runs, with fewer round trips for rebuilding and replacements.

TYPE "B-2" DRILLING BIT

cuts easily through hard formations and is recommended for holes 10¾" in diameter—or larger.

"M-5" DRILLING BIT

Designed for holes from 5" to 10½" in diameter. It reams as it digs and cuts to full gauge—round, straight and fast.

MODEL "M" ROCK BIT

with 3-Point Roller Reamer

Insures longer service, more footage. No friction on teeth, except in contacting formation. Reamers steady bit and keep it vertical.

Write for Globe Oil Tools Company Bulletin 8-A, containing illustrations and complete information about all products.

GLOBE OIL TOOLS CO.

LOS NIETOS, CALIFORNIA

Successors to

H. C. Smith Manufacturing Co., Inc. Wieman-Kammerer-Wright Co., Inc. National Tool & Metals, Inc.

Branches:

Ventura, Calif. Bakersfield, Calif. Taft, Calif. Hobbs, N. Mexico
Kettleman Hills, Calif. Oklahoma City, Okla.

Over the top!
– TO ELIMINATE washouts

and cut down maintenance

LET old Bird Creek overflow whenever it will! Its raging torrents can never harm the two pipe lines on this 340-foot span, four feet above high water mark. Two well designed 12-inch bends on the right bank convey natural gas from the underground lines to the suspension bridge level. These bends also serve as expansion units.

Cities Service Gas Company took this unusual means to insure uninterrupted service and freedom from high maintenance costs at their Tallant, Oklahoma crossing. While they were anxious to obtain a neat appearing job on account of the nearby highway, their first concern was a successful engineering venture.

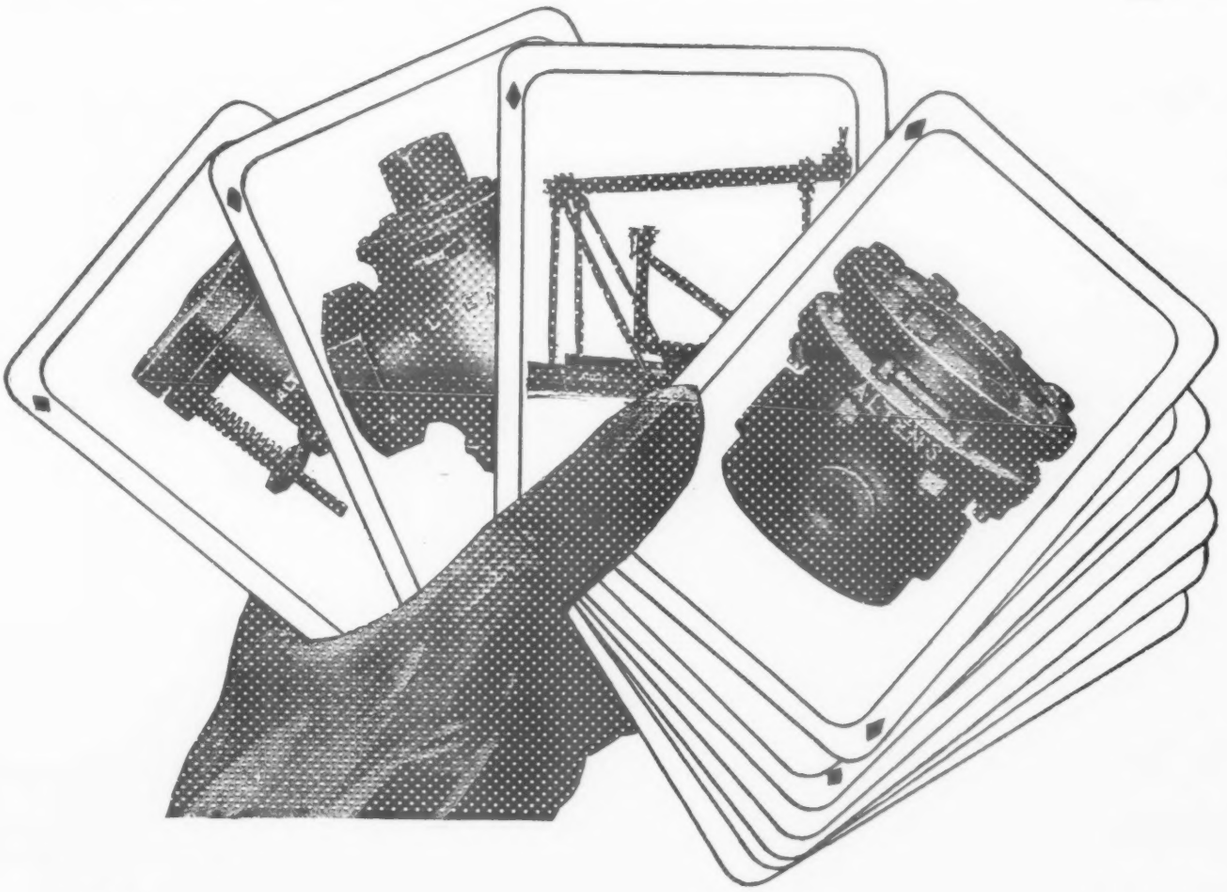
For this reason they chose pipe with a high rating for strength, ductility, uniformity and particular fitness for constructions as unusual as this. They said, NATIONAL—

America's Standard Wrought Pipe

NATIONAL TUBE COMPANY PITTSBURGH, PA.
Subsidiary of United States Steel Corporation

NATIONAL PIPE

Alten's Products Are Trumps



in OIL FIELDS ALL OVER THE WORLD

THERE is nothing mysterious about the extra service that oil men are getting with Alten products. We don't have any cards up our sleeves or aces hidden under the table. But we do have in our foundry a group of workmen who are really proud of the quality products they make. For forty years we have had a very close association with the varied and exacting problems which oil men encounter, and we have specialized in oil field equipment that will help solve those problems. In every Alten product is embodied skillful design, expert craftsmanship and perfect quality of materials. So if you are looking for a product whose dependability must be absolute, whose good practical design must combine with usefulness to assure good service, whose standard of construction must meet the highest requirements . . . Alten's products will be the trumps.

Ask your supply house, or write

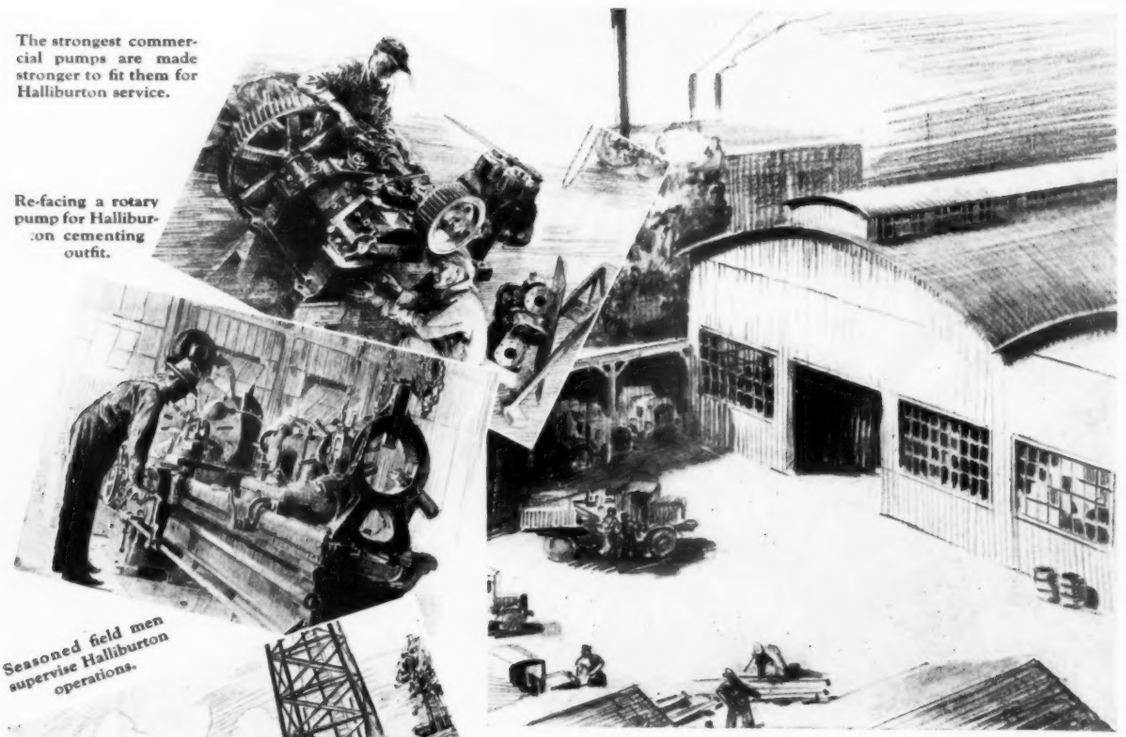
ALTEN'S

Foundry & Machine Works

Established 1889 LANCASTER, OHIO

ASK FOR ALTEN PRODUCTS AT YOUR SUPPLY HOUSE

A Scientific Institution Dedicated



The strongest commercial pumps are made stronger to fit them for Halliburton service.

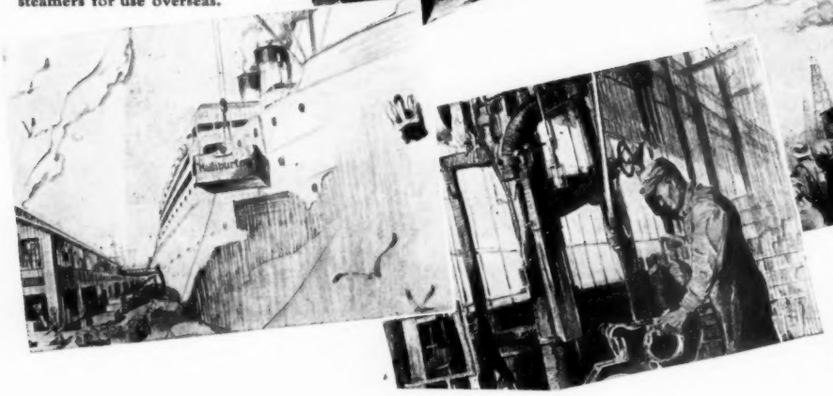
Re-facing a rotary pump for Halliburton cementing outfit.

Seasoned field men supervise Halliburton operations.

To render the highest form of service to the oil industry Halliburton has spared neither time, nor effort, nor money. Seasoned engineers have contributed bountifully of their skill. Countless laboratory tests have resulted in improvements of national importance in the conservation of our petroleum resources. Hundreds of thousands of dollars have been spent in research and development.

No thoroughbred is kept more carefully "in trim" than is Halliburton cementing equipment.

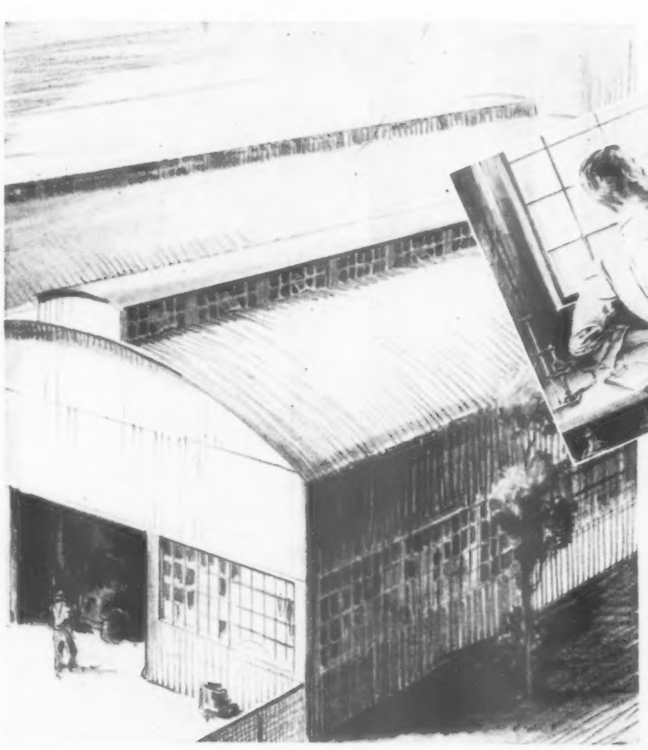
Each year sees an increasing amount of Halliburton equipment placed aboard steamers for use overseas.



1500 sacks of cement intimately mixed and properly placed in an hour's time.

To provide absolute dependability Halliburton reinforces every part of its cementing apparatus.

To the Service of the Oil Industry



Chemical tests of cement, sand, mud fluids, etc., help to substitute science for chance in Halliburton cementing.

Here is another step in giving the Halliburton mixer its amazing ability to stand up under severe service.

The Halliburton Oil Well Cementing Co. is a successful institution because it has never been content "to let well enough alone." Having assumed the position of leadership, it has never for a moment failed to recognize the obligations that leadership entails.

Design and construction of the plug may seem but a detail to the outsider, but it is a matter of genuine importance to Halliburton.

An old-timer contributes his share to the dependability of Halliburton equipment.

Chemists, mechanics, blacksmiths, welders—all take part in and contribute to Halliburton service.

Halliburton Oil Well Cementing Co.
Dept. OW, Duncan, Okla.

Without cost or obligation, please place my name on the list to receive THE CEMENTER regularly as issued.

Name .....

Company .....

Address .....

HALLIBURTON

OIL WELL CEMENTING CO.

Duncan, Oklahoma

SKILLED SUPERVISION GUARANTEES THE QUALITY OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES
GASOLINE—LUBRICATING OILS
NAPHTHA—GAS—OILS
WAX—PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

GULF REFINING COMPANY

General Sales Offices

PITTSBURGH, PA.

District Sales Offices

New York Boston Philadelphia Louisville Atlanta Houston New Orleans

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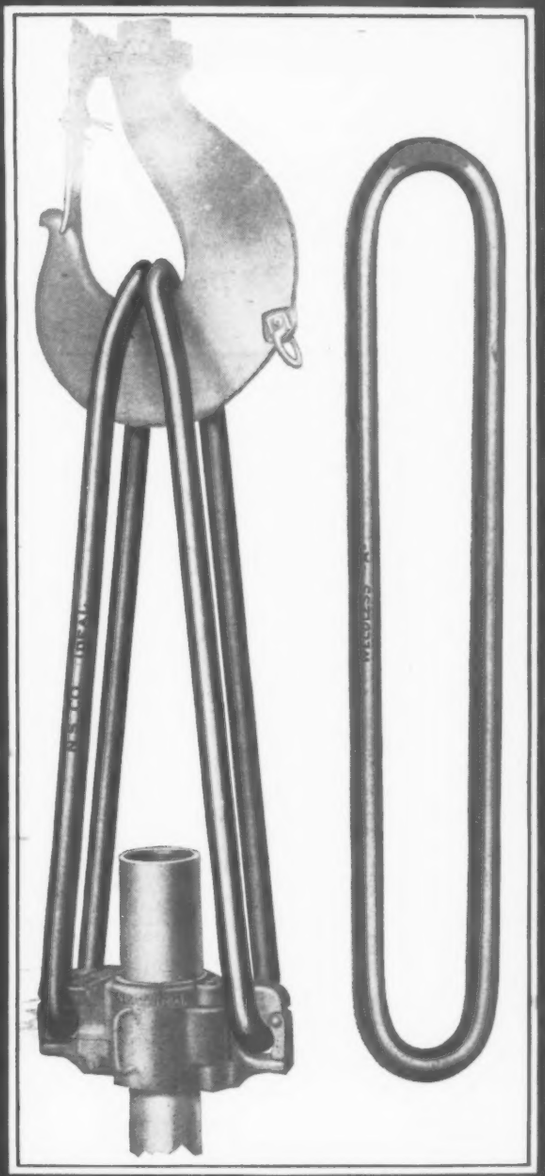
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

IDEAL WELDLESS ELEVATOR LINKS



Forged from a continuous piece of Alloy Steel, heat treated

Links are interchangeable in sets

Descriptive Bulletin No. 88 Sent on Request

THE NATIONAL SUPPLY COMPANIES

A SERVICE TO READERS OF THE OIL WEEKLY

The Gulf Publishing Company, through its Service Department, now offers to the readers of The OIL WEEKLY, an information service which will save you time and at the same time keep you posted on all kinds of Equipment being used in your operations.

You can get information on several items by writing just one letter.

Below, we have listed a number of items. If you desire information in the way of Catalogs, Bulletins, Prices, etc., on any of the products listed, please check with pencil the items in which you are interested. If the item is not listed, write it in on one of the blank lines left for that purpose.

It will be a pleasure to serve you.

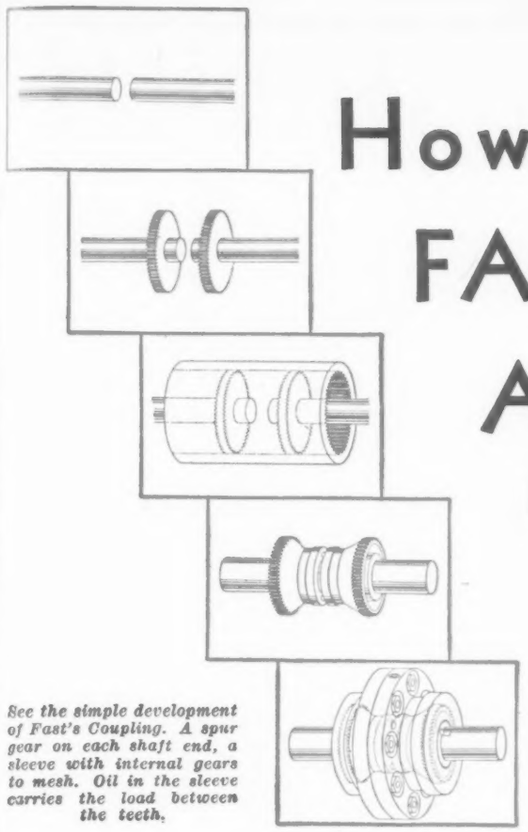
FILL OUT THE COUPON BELOW AND MAIL TO GULF PUBLISHING COMPANY, *Service Department*
3301 BUFFALO DRIVE, HOUSTON, TEXAS

Aeroplanes
Adapters: casing head
Air and Gas Lift Equipment
Anchors
Arc-Welders
Arrestors: flame
Arrestors: lightning
Asbestos: clothing
Backfillers: pipe line
Band Wheels
Bars: Hanger
Baskets: Cement
Beam: Hangers
Bearings
Bearings: Thrust
Belting: Power Transmission
Billets: Forging
Binders: Load
Bits: Cable Tools
Bits: Core
Bits: Rotary Drilling
Bits: Straight Hole Drilling
Bits: Wire Line
Blocks: Crown
Blocks: Rock Bit Breakout
Blocks: Traveling
Blocks: Tubing
Blue Printing: Service
Boilers
Bombs: Time
Books: Oil
Booms: Pipe Handling
Boxes: Stuffing
Braden Heads
Brake Lining
Brasses: Engine
Bridges: Steel
Breakout Gun
Brushes: Motor, Graphite
Buildings
Burners
Bushings
Calorimeters
Capacitors
Carbons: For Diamond Core Drilling
Casing
Casing Cutters
Casing Heads
Castings: Aluminum
Castings: Brass
Castings: Bronze
Casing Roller
Castings: Grey Iron
Castings: Monel Metal
Castings: Steel
Catchers: Tubing
Catheads
Chains: Rotary
Chemicals: Crude Oil Treating
Clamps: Casing
Clamps: Hose
Clamps: River
Clamps: Wire Line
Clutches
Coatings: Protective
Compensators: Automatic
Compounds: Treating Oil Emulsions
Compressors: Air, Gas
Condensers: Steam
Control Heads
Controls: Electric Motor
Core Drill
Countershafts
Cranes: Derrick
Cranes: Traveling
Cutting and Welding: Equipment
Cutters: Casing, Inside
Cutters: Outside Drill Pipe
Derricks: Steel
Derrick Bases
Ditchers: Pipe Line
Draw Works
Drilling Machines
Drills: Rock
Electric Generators
Engines: Diesel
Engines: Drilling
Engines: Gasoline
Engines: Oil
Engines: Rotary
Engines: Steam
Equipment: Oil Marketing
Equipment: Refinery
Extinguishers: Fire
Fishing Tools
Fittings: High Pressure
Fittings: Tank
Floats: Drill Pipe
Flow Bean
Flow Testers
Forgings
Formation Testers
Gages: A.P.I.
Gaskets
Gasoline Plants
Gauges: Automatic Tank Gauges
Generators: Turbine
Hangars: Air-Ship
Heaters: Asphalt, Tar
Heaters: Feed Water
Hoists
Hortonsphere: For Pressure Storage
Hose
Hose: Marine
Houses
Irons: Rig
Jacks: Pumping
Jars: Drilling
Lighting Plants: Electric
Lubricators
Map Mounting
Meters
Milling Tools
Motors
Oil Savers
Orifice: Fittings
Packers
Packing
Paints
Pipe
Pipe Cleaning Machines
Pipe-Joint Compounds
Pistons: Pump
Pitmans
Plugs
Powder: Aluminum Bronze for Aluminum Paint
Powers: Pumping
Power Take-Offs
Preventers: Blowout
Printers
Pumps
Pumps: Centrifugal
Pumps: Pipe Line
Pumps: Portable
Pumps: Rotary
Pumps: Sand
Pumps: Slush
Pumps: Vacuum
Pumps: Working Barrel
Racks: Unloading, Loading
Radio Equipment
Reduction Gears
Refrigeration: Mechanical
Regulators: Pressure
Reversing Tools
Rigs: Lease Maintenance
Rigs: Pumping
Rings: Piston
Rods: Sucker
Roofing: Fire-Proof
Roofs: Breather Tank
Rope: Wire
Rotaries
Rubbers: Slush Pump
Rubbers: Swab
Saddles: Pipe
Sand Traps
Screen: Well
Separators: Oil and Gas
Set Shoes
Shock Absorbers
Shoes: Set
Shovels
Slips
Spark-Plugs
Spears: Releasing
Spiders
Stacks, Smoke
Stairways and Walkways
Steel, High Speed and Tool
Steel, Stainless
Straighteners: Pipe
Substations
Swabs
Swing-Joints
Switchboards: Electric
Swivels: Drilling
Tank Fittings
Tanks
Tanks: Underground
Tanks: Wooden
Thermometers
Tightener: Belt
Tongs: Breakout
Tongs
Tool Houses
Towers: Absorber
Tractors
Trailers
Transformers
Tubing
Tubing Catchers
Tubing: Heads
Turbines
Under-Reamers
Unions
Valves
Valves: Back Pressure
Valves: Drilling
Valves: High Pressure
Valves: Pump
Valves: Working Barrel
Wagons
Weight Indicator: Automatic Recording
Welders: Electric Arc
Whipstocks
Winches
Wire Lines
Wrenches

I want catalog descriptions on the items checked.

Name .....
Street and Number .....
City ..... *State* ..... *Country* .....
Company ..... *Position* .....

How does FAST'S Coupling Avoid Coupling Shutdowns?



See the simple development of Fast's Coupling. A spur gear on each shaft end, a sleeve with internal gears to mesh. Oil in the sleeve carries the load between the teeth.

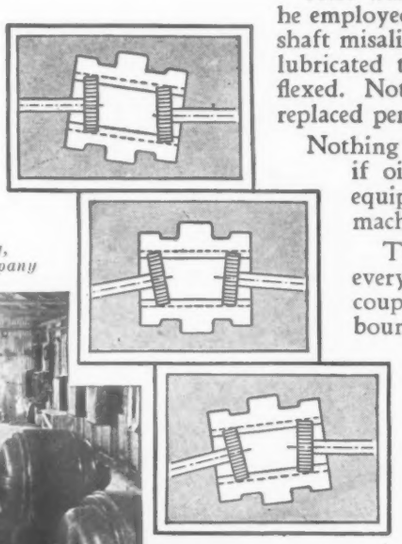
GO back over your plant records (or in your memory) and you will find that practically every shut-down for shaft coupling repairs has been caused by the failure of some flexible pin, bushing, spring, disc or grid.

Fast asked the question, "Why not do away with these flexible parts, and remove this threat of coupling shut-downs?"

Here was his answer! See the diagrams. See how he employed a simple mechanical principle, by which shaft misalignment was compensated for between the lubricated teeth of generated gears. Nothing to be flexed. Nothing to fatigue and fail. Nothing to be replaced periodically.

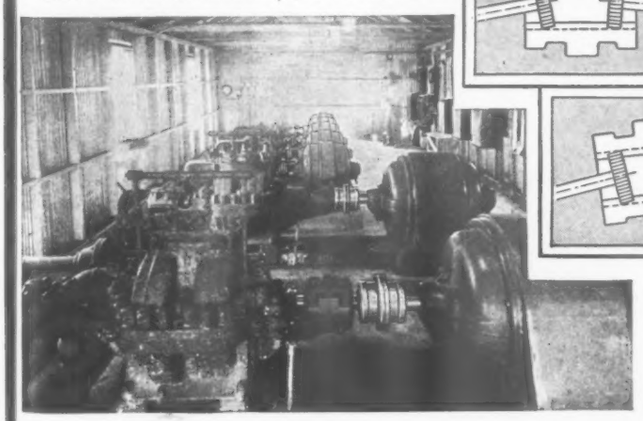
Nothing but a simple mechanical assembly which, if oiled like any other piece of transmission equipment, will last as long as the connected machines.

There is a Fast's coupling for practically every condition met in industry. Send in the coupon and get the new 10th Anniversary bound catalog that tells the convincing story of why and how every new piece of equipment should be connected with Fast's self-aligning Couplings. It's free for the asking. No catalog file is complete without one.



The entire assembly revolves as one unit. All forms of misalignment are compensated for between the lubricated faces of the gear teeth.

Fast's Couplings at Oklahoma City, Indian Territory Illuminating Oil Company



It costs very little if any more to use Fast's Coupling. It becomes a permanent part of your transmission machinery. Due to its correct design that eliminates crank action and resulting damaging stresses in shafts and bearings, it materially lengthens the life of the connected machines and reduces upkeep costs.

The Bartlett Hayward Co.
Baltimore, Maryland

Send for NEW Catalog

THE BARTLETT HAYWARD CO.
217 Scott Street - - Baltimore, Md.

Send me the free bound copy of the new Fast's 10th Anniversary Catalog showing varieties of designs and installations, containing valuable data on coupling installation.

NAME_____

FIRM NAME_____

ADDRESS_____

SYFO CLINOGRAPH

A User Speaks

JOHN A. DEERING
32ND FLOOR NEILS ESPERSON BUILDING
HOUSTON, TEXAS

May 21, 1930.

Sperry-Sun Well Surveying Company,
1504 First National Bank Building,
Dallas, Texas.

Gentlemen:-

In reply to your letter of May 20th with reference to the SYFO instrument which I leased from you and ran in the Hirsch well No. 1 just east of my producing well No. 5 at Humble, will say that I deepened Hirsch No. 1 from around 2700 feet to 4660 feet into salt. I fully expected to pick up the producing sand somewhere between 4200 and 4400 feet, having missed it entirely I felt there must be something wrong with the hole and in connection with this feeling, I took up the matter of using one of your SYFO Instruments to find out whether or not my hole was crooked. I discovered that from 3000 feet on down to 4300 feet I was from three degrees to twenty one degrees off of vertical. We could not run the machine deeper on account of heaving shale, but we fully believe that we were considerably more out of vertical than we were at 4300 feet, where the instrument showed we were twenty one degrees off.

I then cemented this hole up to 2640 feet and drilled the hole over again, using the SYFO about every hundred feet so as to keep a record of how the hole was running and I then picked up the sand at around 4160 feet and made an 800 barrel well. The SYFO thus saved me the cost of a well which amounts to real money when drilled to the above depth.

I am entirely satisfied with this instrument and believe that it is the best of its kind on the market and far ahead of any other instrument with which I am familiar.

In this connection, I would like also to express my appreciation of the prompt service which your company has given me.

JAD-D

Yours very truly,

John A. Deering

The survey of drilling progress is today accepted as a necessary and economical precaution.
Investigation of the SYFO Clinograph will convince you that here is the best, most accurate, speediest, safe and economical instrument to use. Leased only.

WRITE FOR COMPLETE DESCRIPTIVE LITERATURE AND RATES

SPERRY-SUN WELL SURVEYING CO.

Main Office - 1608 Walnut Street
PHILADELPHIA, PA.

DALLAS, TEXAS: 1504 First National Bank Bldg. TULSA, OKLAHOMA: 402 Petroleum Building HOUSTON, TEXAS: 1420 Esperson Building

"For every joint on every line"

A FEW LEAKING JOINTS CAN CANCEL CONSTRUCTION ECONOMIES ON ANY PIPE LINE JOB.

For low cost installation — no leaks — no joint maintenance cost — SPECIFY VICTAULIC COUPLINGS

• • •

Mail the Coupon for Victaulic Bulletin

Available in every size from ¾ inch up—for steel, wrought iron, cast iron and spiral weld pipe—any pressure. See Sweet's page 451. Mail the coupon below.

VICTAULIC COMPANY OF AMERICA
26 Broadway New York

"For every joint on every line"

FLEXIBLE LEAK-PROOF

VICTAULIC

REG. U. S. PAT. OFF.

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HANLON-WATERS, INC.
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Knoxville, Tenn.

FOR OIL, GAS, WATER, SEWAGE, COMPRESSED AIR, ETC.

COUPON
For uses, installations, specifications and prices, fill in and mail this coupon.

VICTAULIC COMPANY OF AMERICA
26 Broadway New York

Please send me VICTAULIC BULLETIN No. 8

Name _____

Address _____

25,000-barrel Horton tank at Houston, Texas, equipped with a Wiggins Breather Roof.

MORE INCOME from your crude oil » »

Leading oil companies have found that the Wiggins Breather Roof makes possible more income from crude — thereby repaying its cost in a few months — through solving such problems as:

Evaporation: Evaporation from standing storage is practically eliminated by the Breather Roof. This steel roof, fastened solidly to the top angle of the shell, flexes up and down to accommodate vapor volume changes. No vapor is vented out under normal conditions. The savings possible are shown by the following table:

ANNUAL SAVINGS WITH BREATHER ROOFS—STANDING STORAGE

Tank dia. in ft.	Kind of Oil	Cone Roof Tank Loss	Breather Roof Loss	Saving in Dollars
120	Gasoline	950-1,200	20-50	$4,368
60	Gasoline	200- 300	10-25	966
120	Crude	500- 600	10-25	1,855
90	Crude	300- 350	10-25	1,067

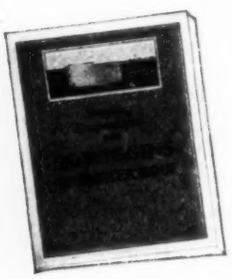
Corrosion: Used as a liquid breather, this roof greatly retards the corrosive action of sour crudes. The oil is held in contact with the roof at all times, so there is no space for corrosive vapor to form. By thus decreasing the rust falling from the roof, deterioration of the bottom plates from electrolytic action is also minimized. Breather Roofs operated with a vapor space may be coated on the under side periodically by flooding the oil against the roof.

A group of Breathers may be connected to one overflow tank, to take care of the annual thermal expansion. Once a year the oil in the accumulator tank is pumped back into the Breather to keep the oil always against the roofs.

Fire: The Breather is hermetically sealed more than 99% of the time a gastight tank is emitting gas. Therefore the chances of ignition are much less than with a gastight tank.

Any new or existing tank may be equipped with a Wiggins Breather Roof. Low pitch cone roofs in good condition may be converted into Breathers at low cost. Address our nearest office for booklet on Breathers and estimates on equipping your tanks.

Send for this Booklet



CHICAGO BRIDGE & IRON WORKS

Dallas	3338 Magnolia Bldg.	Chicago	2142 Old Colony Bldg.	Philadelphia	1613 Jefferson Bldg.
Birmingham	1538 Fiftieth St., N.	Detroit	1515 Lafayette Bldg.	Boston	1518 Consolidated Gas Bldg.
Atlanta	2155 Rhodes-Haverty Bldg.	Cleveland	2241 Union Trust Bldg.	San Francisco	1050 Rialto Bldg.
Houston	1120 Electric Bldg.	New York	3144 Hudson Terminal Bldg.	Seattle	4322 L. C. Smith Bldg.

WIGGINS BREATHER ROOFS

OW 9-19 Gray

GOUGING *and* BREAKING *of* CUTTERS *Reduced*

J.S. ABERCROMBIE
OUTSIDE
DRILL PIPE
CUTTING
TOOL

The patented and exclusive Automatic Screw feed of the cutters in this outside (drill pipe) Cutting Tool assures a smooth even feeding and accurate track into the cut, thus lessens breakage and totally eliminating gouging. The tool is securely fixed into position so no upward strain is put on the cutters while cut is being made.

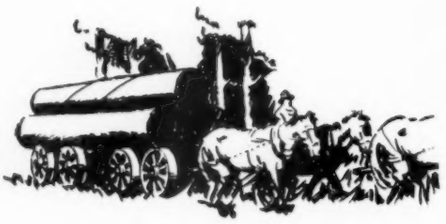
The cutters remain flush with inside of cutter body while going in hole, and therefore no risk of breaking is taken. The screw feed also returns the knives to their original position of flush with cutter body when cut is completed.

These tools are rented on a most economical contract basis. Our services include a skilled operator whose experience with cutting jobs enables him to complete the job without undue delays. Red Ball Service is available with an inside cutting tool for the removal of Casing, Liner or Screen.

Home Office - - - - Fairfax 5317
Long Distance 200
Arch Owen - - - - - Lehigh 7586
H. C. Fouts - - - - - Lehigh 8445
C. M. and R. H.
Abercrombie - - - - - Lehigh 6902
J. S. Abercrombie - - - Lehigh 7459
Lake Charles, Louisiana
Ford de Cordova - - - Phone 584

J. S. Abercrombie Co.
RED BALL CUTTING SERVICE
21ST FLOOR GULF BLDG.
HOUSTON - TEXAS

J-SA7



ALL OVER THE WORLD you'll hear the same thing . . . "A MARTIN Never Fails"

All over the world . . . in logging camps . . . oil fields . . . lumber yards . . . wherever there's hard work to be done . . . there you'll find Martin Wagons. Doing their jobs as only Martins can. And wherever you go, you'll hear the same thing said: "A Martin never fails."

Bad roads and heavy loads hold no terrors for a Martin. No task is too great. It always comes through.

Seventeen years of manufacturing experience insure their excellence. Nothing but the best grade of oak and hickory is used in their construction . . . *reinforced with steel.* Our patent adjustment on tongue and coupling enables you to keep the wheels in line so that they will track at all times. This, together with a Martin's easy turning qualities, enables you to carry greater loads with less power.

Martin trailers fit any truck up to five tons. Made with the same superior materials and workmanship as Martin wagons . . . and, like them, the result of seventeen years of manufacturing experience.

MARTIN WAGON CO.
LUFKIN, TEXAS

"MARTINS HAUL ANYTHING"

HOTEL HARRISON

CHICAGO'S NEWEST DOWNTOWN HOTEL

RUNNING ICE WATER IN EVERY ROOM
$2.50 AND $3.00 WITH BATH NO HIGHER

RADIO IN EVERY ROOM

NO PARKING WORRIES
DIRECT ENTRANCE FROM HOTEL TO GARAGE

HARRISON STREET JUST OFF MICHIGAN BOULEVARD

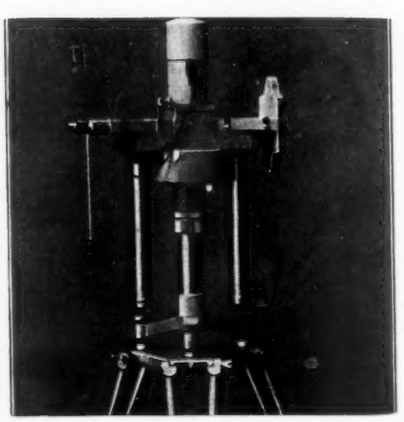
CHICAGO

THE SMALL TORSION-BALANCE

EASILY PORTABLE BY ONE MAN

An instrument for all types of geological prospecting work.

Weight: 15.5 kg. net=34.2 lbs. net

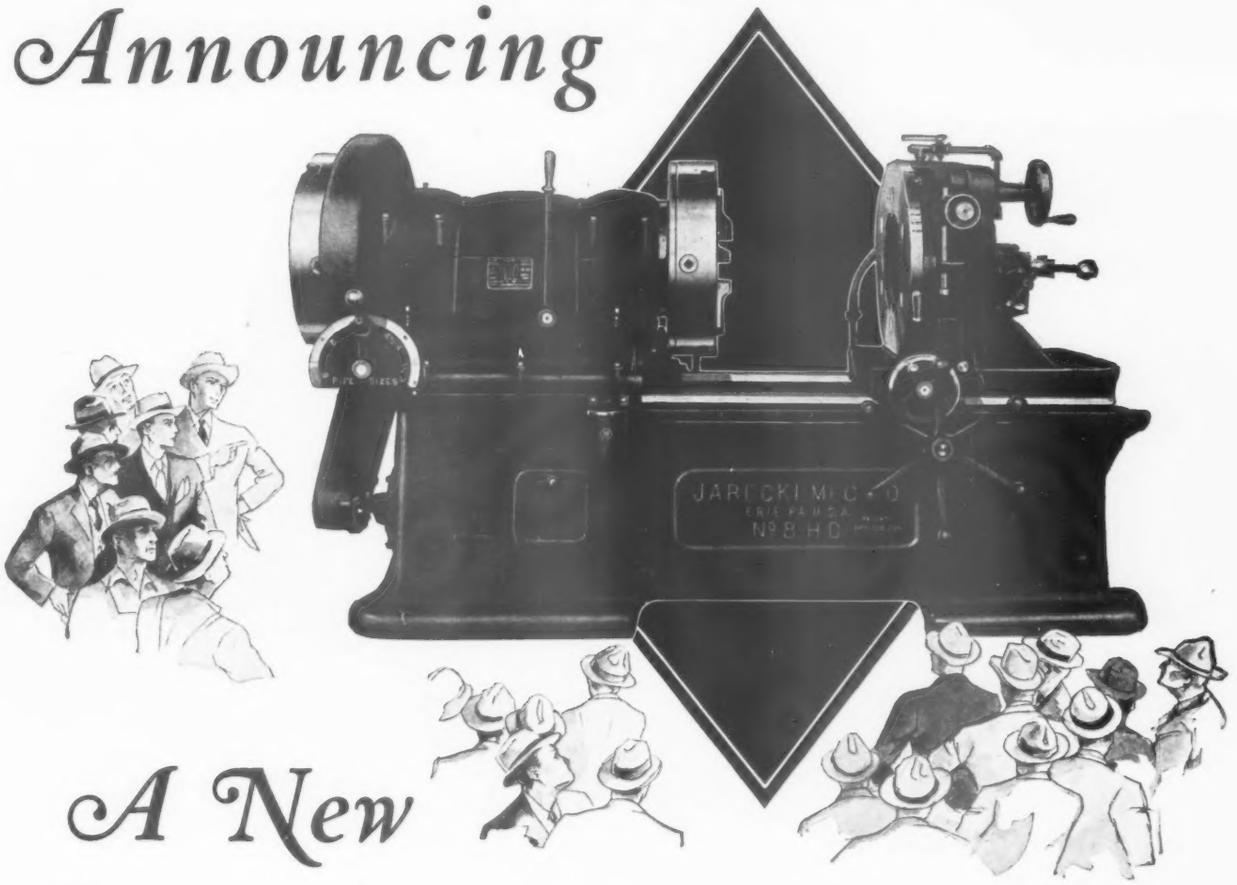


Unsurpassed in Accuracy and Sensitiveness,
Unequalled in operating when changing stations.

Prospects sent post free on application.

GEBRÜDER HAFF, G. m. b. H.
Pfronten-Ried, Germany
Manufacturers of mathematical instruments—Founded 1835

Announcing



A New Conception of PIPE-THREADING

Speed . . . Economy and Efficiency

FEATURES

One automatic self-opening die head covers complete capacity range.

••

One set of H. S. S. chasers threads complete standard range—changeable only for thread or pitch variation. (In the 8″ machine shown from 2½ to 8″ without change).

••

Chasers are easily and quickly changed. Screw-driver only tool required.

••

Chasers held in massive holders—no bushings.

••

Die-opening trigger automatically opens chasers at correct thread length.

••

Cutting off and chamfering at same operation.

••

Gears are steel-cut, running in oil. Hardened chrome-nickel steel wearing parts.

••

TIMKEN ROLLER BEARING equipped.

••

Extremely sturdy construction, based on half a century's experience in building threading machines. Exceptional reliability.

JARECKI is pleased to announce the *greatest advance in recent years in Pipe-Threading equipment*—a new Heavy Duty, High Speed Threader offering, among other advantages: *Faster threading than has hitherto been possible. . . . . Drastically reduced production costs. . . . Lower die and power costs . . .*

A newly designed, patented die head that automatically opens the dies when the correct length of thread has been cut; TIMKEN ROLLER BEARINGS THROUGHOUT; double the threading speed and more than double the cutting-off speed provided by standard equipment—these are just a few of the features. Others are detailed at the left.

For the FULL story of this remarkable development, write today for Bulletin "A"

Jarecki

MANUFACTURING COMPANY

Home Office and Factory—Erie, Pa., U. S. A.
General Office, St. Louis, Mo.

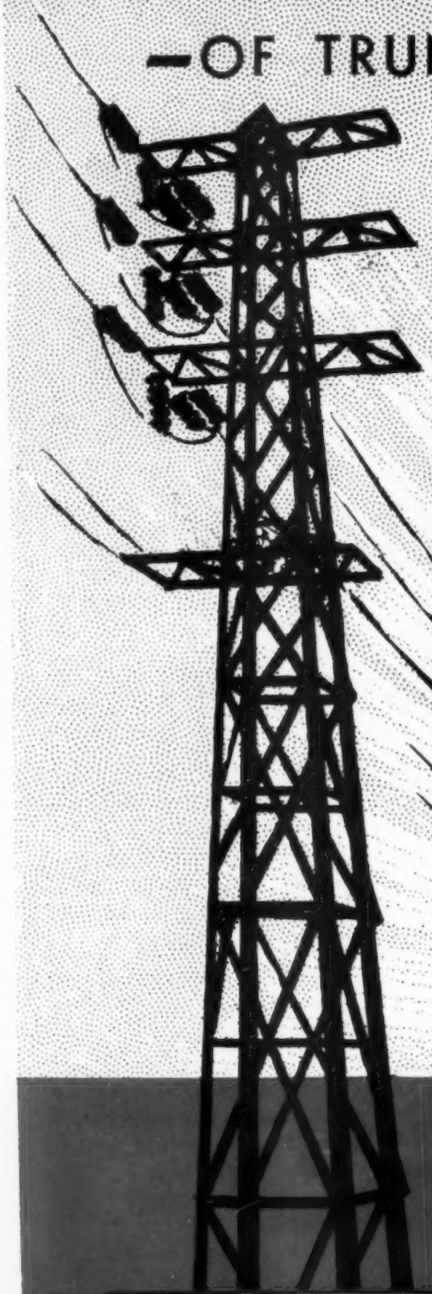
District Offices—Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

Branch stores at all important places in the **Oil Country**

SERVING WEST TEXAS

MORE THAN 2500 MILES

—OF TRUNK TRANSMISSION LINES



and with better than 100,000 horsepower available, the West Texas Utilities Company offers the oil fields of West Texas dependable and economical power service.

Before you buy another piece of new power equipment, let one of our experienced engineers help you figure the operating cost required with the various types of power available in your field.

Electric power is dependable—ready to stop or start at the throw of a switch, day or night—with less wear and tear on machines — with minimum fire hazard — and with rates that never change, except to become lower.

Three great generating stations and 22 auxiliary plants afford ample electric power service to 45 counties, in West Texas with 116 points of distribution.

West Texas Utilities is now providing motor power to more than 1500 wells.

If your lease is in serving distance of our power lines let our engineers show you how inexpensively you can adapt your equipment to electric power.

WEST TEXAS UTILITIES COMPANY

In the Land of Opportunity

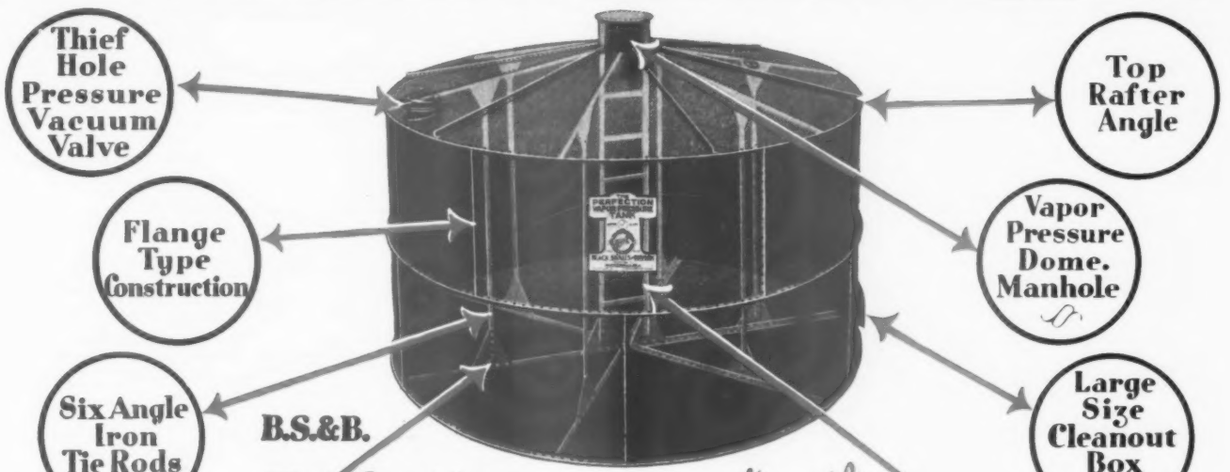
GENERAL OFFICES·· ABILENE, TEXAS

TIGHT TANKS!!

—That Prevent Evaporation Loss

The B. S. & B. PERFECTION Vapor Pressure Tanks are built as tight as a drum. They are more than leak-proof—more than air tight—more than gas tight. *They are vapor pressure tight,* and are built to retain the lighter fractions of the crude as they are thrown off. Retaining these valuable vapors they prevent evaporation loss and also keep the crude at well-head gravity, enabling you to deliver it to the pipe lines, without loss of either volume or specific gravity.

Study the phantom photograph of our 250 barrel size. Note the construction, built like a skyscraper, the various points of strength, and a few of the features.


Thief Hole Pressure Vacuum Valve
Flange Type Construction
Six Angle Iron Tie Rods
Heavy Tie Rod Gussets Bolted to Bottom Angles
Top Rafter Angle
Vapor Pressure Dome. Manhole
Large Size Cleanout Box
Inside Ladder

B.S.&B. Perfection Vapor Pressure TANKS

"Trifles make Perfection, but Perfection is no Trifle."

B. S. & B. SERVICE . . . . . ("Service on the Dot" "Service on the Spot")

Appreciating the handicaps under which the oil man labors, and his need for speed, B. S. & B. service is properly attuned. The B. S. & B. organization has 50 field, or service, stations scattered throughout the Mid-Continent and Rocky Mountain fields.

Stocks are carried at all stations, and with our own trained tank crews, employed exclusively by us 100% of the time, we are able to give quick installation, plus thorough erection service. And B. S. & B. Service does not stop when the tank is erected!

There is an interesting story awaiting you, interesting from the viewpoint of $'s and ¢'s. We've a man near you now, who would like to tell that story—or may we present it through a letter or literature? Please address Dept. A-33.

EFFICIENT B S & B SERVICE DEPENDABLE

Our Watchword QUICK S-E-R-V-I-C-E

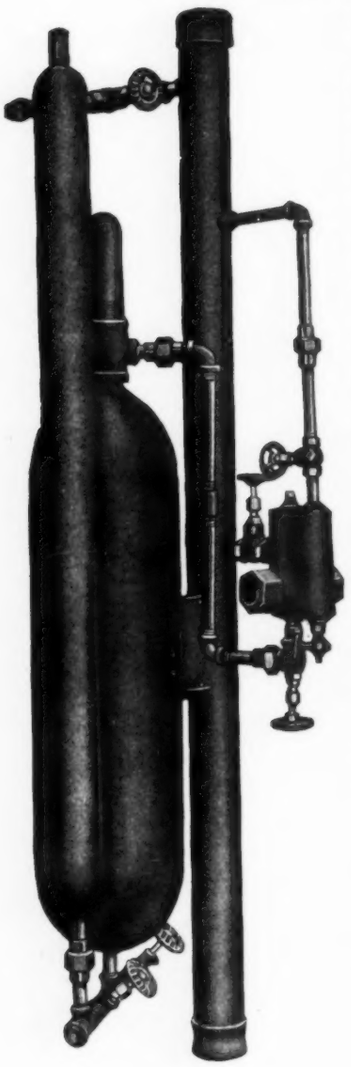
Black Sivalls & Bryson INC

BARTLESVILLE ~ OKLAHOMA

See Tanks on Display at our Booth, International Petroleum Exposition TULSA OCT. 4-11

BADGETT LUBRICATOR SAVES SIX WAYS

1. TIME
2. TROUBLE
3. SHUT - DOWNS
4. DELAYS
5. ENGINE WEAR
6. And MONEY



Badgett Lubricators operate on every type of steam engine. Get Badgett Equipment now and end all your lubrication troubles. Good lubrication means money to you, the life of your machinery, the time of your workmen. Badgett Lubricators eliminate packing piston rods on engines and pumps.

This lubricator is a positive, regular feed; can be attached to any steam line; sits upright; may be attached at bottom or both ends; operated by water pressure. Here are some present users of Badgett Lubricators:

Southern Drilling Co., Oklahoma City, Okla.
John Mabee, Tulsa
Loffland Bros., Tulsa
J. Henry, Duncan, Okla.
Summit Drilling Co., Tulsa
G. J. Beard, Duncan, Okla.
Hubbard & Woffard, Tulsa
Herman Wagner, Okla. City
Byers Drilling Co., Okla. City
A & B Drilling Co., Okla. City
Capitol Drilling Co., Okla. City
Prince & Prince, Electra, Tex.
Clark & Cowden, Duncan, Okla.
Hartman & Hamilton, Seminole, Okla.
Independent Oil Co., Okla. City
G. E. Gilberth, Okla. City
Golden & Cochran, Wink, Texas.
Haynes Drilling Co., Wink, Texas.
Murphy & Graham, Seminole, Okla.
Steinberg & Yerkee, Seminole, Okla.
Fain McGaha, Wichita Falls, Texas
Alleson & Clevinger, Seminole, Okla.
Winkler & McQueen, Duncan, Okla.
Reynold Drilling Co., Seminole, Okla.
Manahan Drilling Co., Seminole, Okla.
Herndon Drilling Co., Seminole, Okla.

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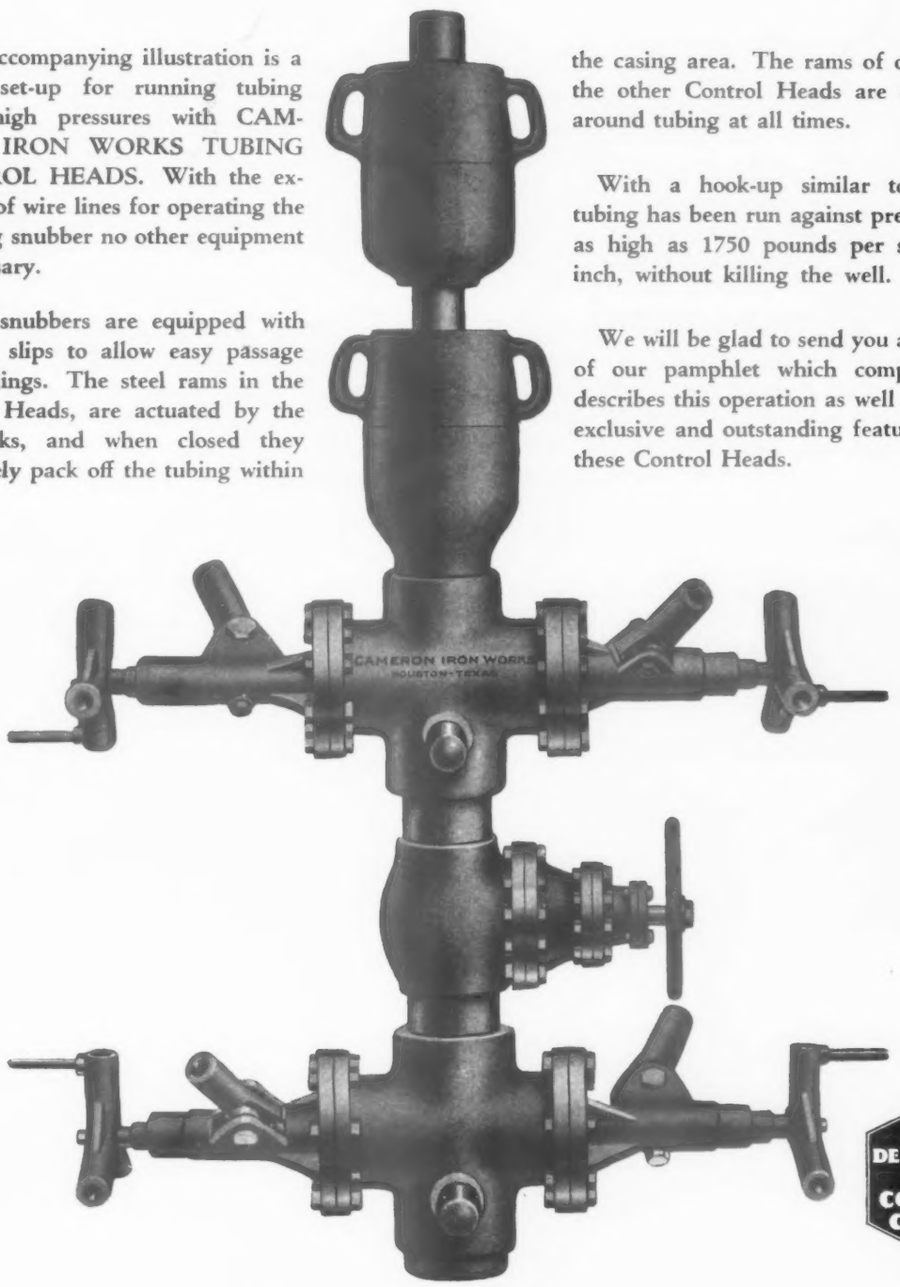

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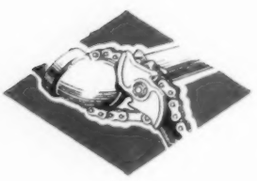

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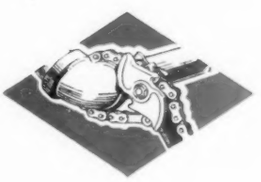

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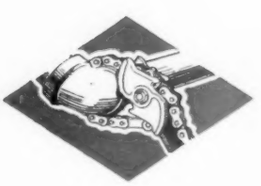

VULCAN SUPERIOR

PIPE AND FITTINGS TONGS

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VOLUME 59, No. 1

SEPTEMBER 19, 1930

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

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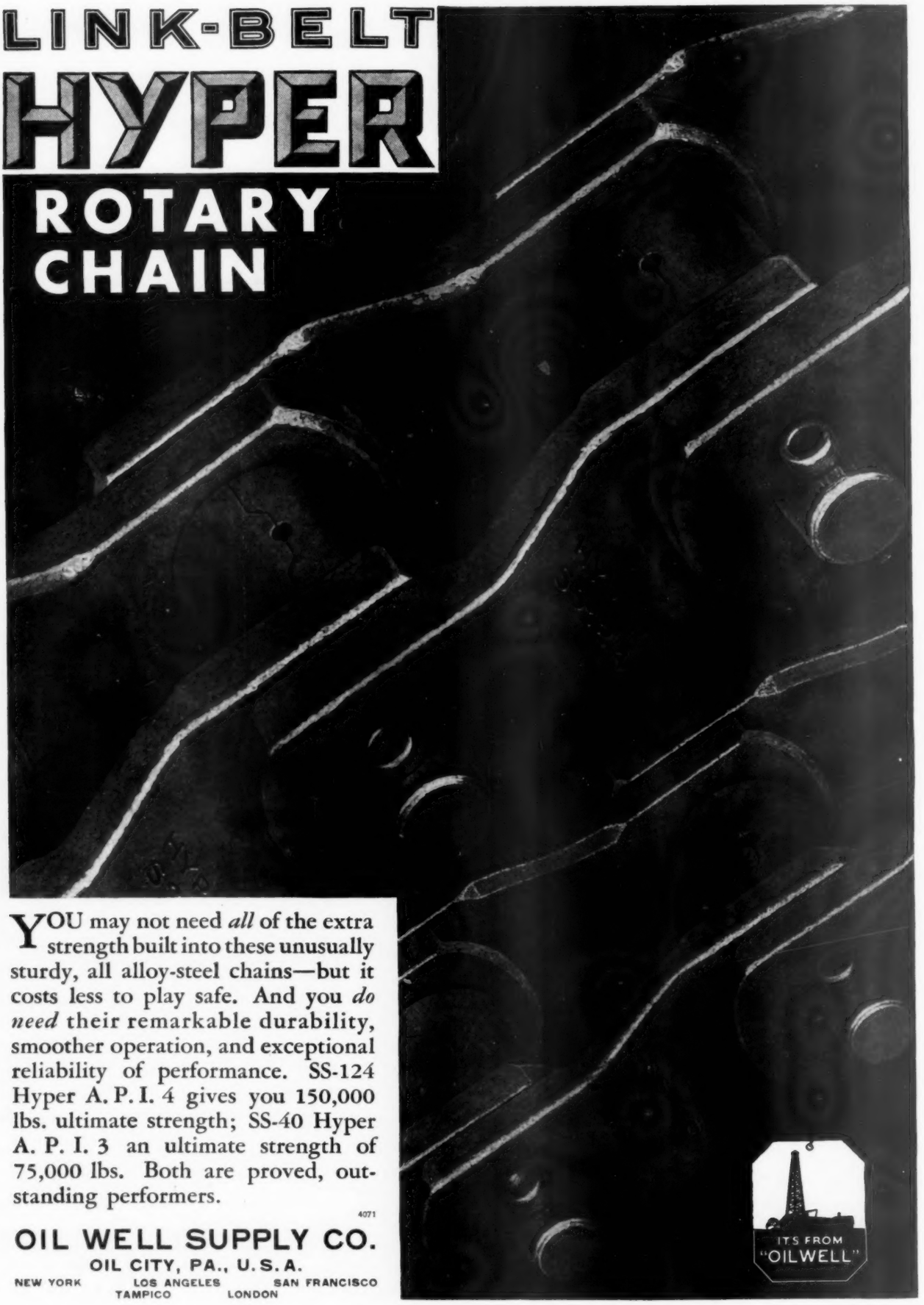

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THE OIL WEEKLY

VOLUME 59, NO. 1 SEPTEMBER 19, 1930

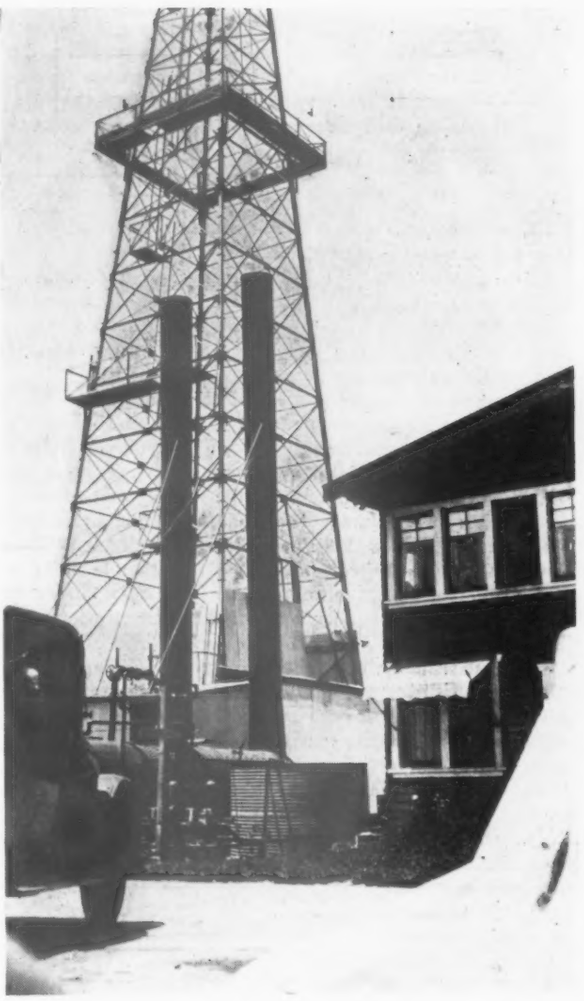
California Price Situation

Revealed in Open Letter from MacMillan to Standard Oil Company

LOS ANGELES.—The plan to reduce California production to 550,000 barrels has been at least temporarily sidetracked, and concentration on a more stable market structure through achievement of the present 596,000-barrel allowable and increase in prices of refined products has held the center of interest. As might be expected where efforts are being made to change curtailment plans, the crude situation immediately involves the control of fuel oil and gasoline, making it a difficult matter to draw the line between producing, refining and marketing divisions.

Undoubtedly the outstanding development of the week was the publishing of an open letter from Herbert R. MacMillan, president of the California Oil and Gas Association, to Standard Oil Company of California, a copy of which was sent to Ray Lyman Wilbur, Secretary of the Interior. In some quarters, this letter is regarded as a challenge to the dominating oil company in California to raise the price of gasoline or reduce the price of crude oil. MacMillan is also vice-president of MacMillan Petroleum Corporation, a large independent producer, refiner and marketer, but it was not in this capacity that the letter was written.

The letter purports to set forth the reasons why either crude prices must come down or gasoline prices go up, all the while showing reasons for continuation of the curtailment program. Operators are divided on the wisdom and probable effect of the letter, but being the head of an organization standing for the small and large operators alike as well as an independent operator, his message to Standard Oil Company of California has been widely discussed. MacMillan has long been regarded as friendly to the policies of the majors, and for this reason his letter has not met the approval of certain operators opposed to the general curtailment scheme. Parts of the letter follow:



Townlot activity in the new Playa del Rey field

Letter Quoted

"When the curtailment agreement was entered into by the producers of crude oil in the state of California, for the purpose of compensating the producers, the price of crude oil was advanced by Standard Oil Company of Cali-

Industry Confused by California Price Changes

LOS ANGELES.—Reducing crude prices and raising the gasoline price in California is causing widespread comment both inside and outside the oil industry. It is difficult for the average person to see the wisdom and fairness of a boost in the refined or finished product and a slash in the raw product; and there is some doubt concerning the ultimate outcome of the so-called adjustment. While crude prices have been reduced only on an average of 10 cents per barrel, the fact that gasoline prices have been advanced, does not meet the approval of many small producers who have no marketing facilities.

Usually gasoline and crude prices go the same way and the still greater spread caused by these changes should work to the advantage of companies purchasing crude and converting it into refined products.

It has been claimed for some time that the price structure was out of balance and the price changes were for the purpose of remedying this. Gasoline consumption is running considerably lower than anticipated, and the third quarter will not show an appreciable gain over the same period of last year. Crude prices were weak before the reduction and the lower posted prices should work toward the payment of small premiums since gasoline commands a better price.

Rumors that bootleggers of both crude oil and gasoline will raise their prices to more nearly conform with those set by the major oil companies have not been confirmed. If the gallonage of these companies continues to increase at the expense of the integrated companies that hold to higher prices it will be all the more difficult to make the higher gasoline prices effective.

---

fornia, and that advance was immediately followed by the other purchasers of crude oil in this state.

"In order to assist in the movement to cut down overproduction and thereby prevent the waste of natural resources, the refiners in the state of California voluntarily curtailed their operations and have continued so to curtail down to the present time.

"So long as the advanced price of the crude oil continues in effect, none of the independent refiners in the state of California can operate at a profit with gasoline selling at the price recently established by your company.

"It is our opinion that none of the major companies can operate at a profit under the conditions above outlined. This statement is, we think, verified by the financial statements recently published and by the fact that in some instances dividends have been passed. The oil industry for a long time has been suffering under the present price structures, and because of this fact many other lines of business have been detrimentally affected.

"It cannot be expected that the manufacturers of gasoline shall continue much longer to manufacture and sell their product at a loss. Some remedy must be sought. The conditions can be corrected by one of the following methods:

"(1). A reasonable increase in the retail price of gasoline.

"(2). Discharging employees and reducing the wages of the employees retained. (Only partial relief can be obtained under this method.)

"(3). Reducing the price of crude oil to a price which will enable the refiner to make a reasonable profit at the present retail gasoline price.

"A reduction in the crude oil price would not be just to the great number of producers whose production is settled and hence already reduced by nature to small proportions since the curtailment is doubly hard on that class of producers, resulting as it does in greatly reducing their income.

"Discharging employees and reducing wage scales would simply create additional distress and serve to reduce the purchasing power of the public. It follows, therefore, that the logical step is a reasonable advance in the price of gasoline.

"Unless one of these methods is adopted, the independent refineries who are also producers of crude oil and who voluntarily and cheerfully joined in the curtailment program will be compelled to open their wells to full capacity in order to produce the crude product and deliver same at their refineries as cheaply as possible. This, of course, would be disastrous to the curtailment program.

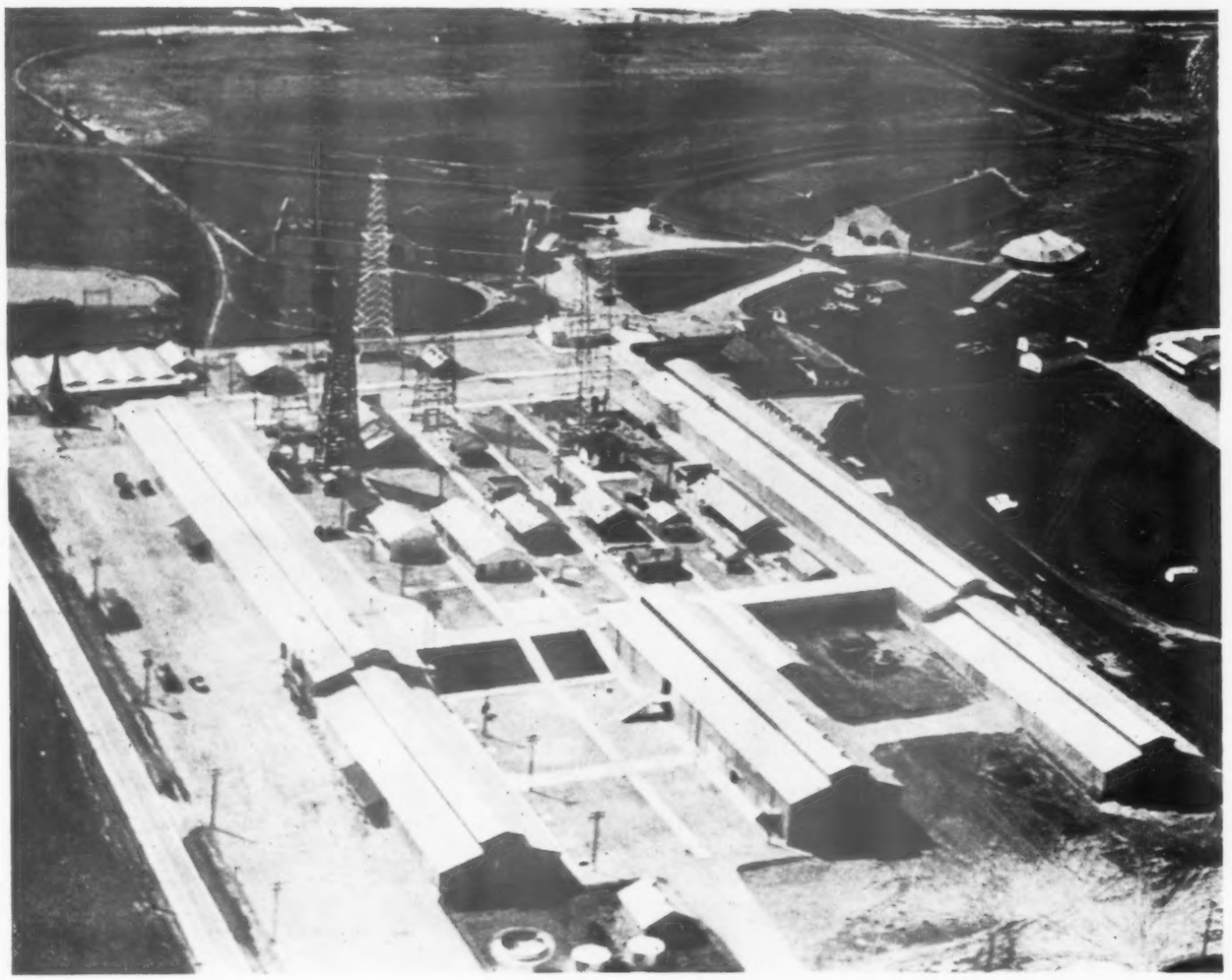
"We are writing this letter to you because a majority of the contracts under which the independent refining companies purchase their product, are governed in their price for the crude oil by the price fixed by Standard Oil Company of California. We believe, therefore, that your company should either reduce the price of crude oil or should take the lead and increase the retail price of gasoline, and we urge upon you the necessity of quick action in this regard."

The curtailment program has narrowed down to the output of crude oil and the disposition of gasoline. Claims have been made that the posted prices of crude oil and retail prices of gasoline are out of balance and that an adjustment, such as that outlined in the foregoing letter, should be made. The crude oil being produced is making more gasoline than anticipated, due to the increase in cracking. A smaller consumption of refined products than expected is also immedately reflected in a weaker crude oil market.

The necessity for bringing production down to 550,000 barrels, or some level far below the present output of 605,000 barrels, is obvious, but finding ways and means to bring about the desired reduction is another matter. Since the output has not yet been brought to the allowable of 596,000 barrels, many operators are opposed to the setting of a new allowable before the present objective is reached. It seems to be a form of compromise to reach some figure below the present production and there is some doubt concerning the wisdom of the move.

The increase in production at Playa del Rey has been enough to cause an excess in spot crude and economic conditions within the industry have been affected by the field. Although producing less than 20,000 barrels daily, the field is yielding just enough oil to antagonize the market.

At least two major producers are satisfied with the present allowable of 596,000 barrels, one would like a slightly higher figure, while four favor lower totals. No definite plan has been formulated for approval of all operators.



Finishing Touches Put to Exposition Grounds

By GRADY TRIPLETT

TULSA.—Very shortly the last hammer and the last paint brush will be carried away from the plants of the International Petroleum Exposition and Congress, which will mean that buildings and grounds are ready for the seventh annual oil show.

"Just a few touches," was the answer William B. Way gave when asked about the progress in preparing for the event, which will be held from October 4 to 11. He meant that the greater part of the work had been done. Two new buildings and various lesser improvements are the evidence of what has been done to take care of exhibits for 1931. These new buildings, one the California building and the other known as the Refiners and Marketers building, have been built to the east of existing structures. These buildings made it necessary to build a ramp, so pedestrians could visit them without stair climbing.

Additional concrete, additional chat for the outside area and 24 additional large drain basins with 75,000 feet of sewer lines have been put in place to offset any inclement weather. In the past the exposition suffered in attendance due to wet weather. So these facilities have been added to make it unnecessary to stay away from the grounds because of rain.

The program is being perfected by officials and committees of the organization. The complete roster of events will not be ready until shortly before the opening day. Last week, however, W. G. Skelly, the president, announced that Patrick J. Hurley, Tulsa citizen and Secretary of War, has accepted an invitation to speak at the opening event October 4. He also will be heard over station KVOO in

(*Continued on page 75*)

W. F. Cloud, associate Professor of Petroleum Engineering, University of Oklahoma, and author of a number of papers dealing with petroleum engineering and technology. Mr. Cloud has written a series of articles for THE OIL WEEKLY, *some of which have appeared recently and others which will be found in subsequent issues.*

FLOW Characteristics Unsaturated

By W. F. CLOUD
Associate Professor of Petroleum Engineering, University of Oklahoma

THE presence of natural gas or air in crude oil influences the movement of the oil through reservoir rocks by affecting the physical properties of the oil and by building up a "pressure resistance" to flow which is popularly known as "Jamin effect." This resistance to flow of liquids was first studied by the French scientist, J. Jamin,[1] after whom the expression was named.

The data and information included in this article regarding the characteristics of flow of saturated and unsaturated (dead) oils are the results and conclusions of experimental research performed in the laboratory of the School of Petroleum Engineering at the University of Oklahoma by the senior students of petroleum engineering.

Equipment Used

The accompanying photographs show the kind and nature of the equipment used in this experimental work.

Saturation Tank

A heavy steel cylindrical tank, capacity about 42 gallons, was mounted on a platform, then a galvanized tin temperature bath was built around the saturation tank. This tin tank contained kerosene as a means of controlling the temperature during saturation. The kerosene was stirred continuously by a small motor mounted on the top of the tank, as is shown in Fig. 1 at (a). The tin tank was completely covered with two thicknesses of Masonite, as a means of further temperature control.

The oil was poured into the saturation tank through the funnel mounted on a ½-inch pipe at the side of the tank, as shown in Fig. 1 at (b). About 25 gallons of crude were used at each charging of the tank.

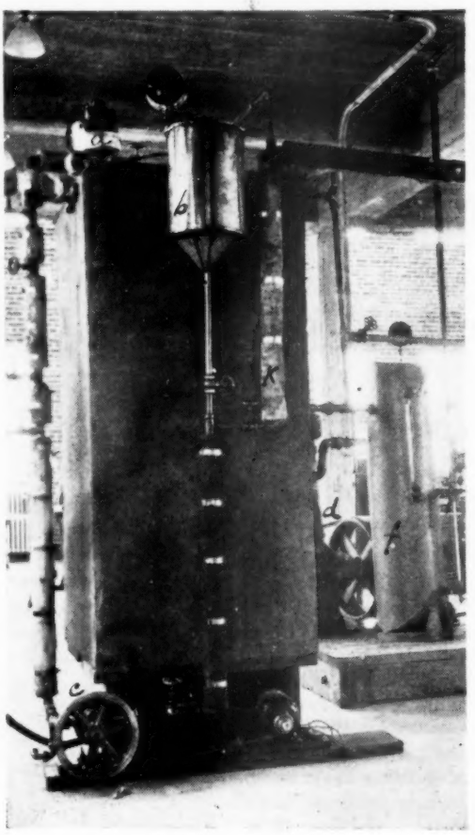


FIGURE 1

To saturate the oil it was forced out of the bottom of the tank by pressure obtained from the compressor inlet at the top of the tank, thence through the circulating pump (c) up the outside of the tank through heavily insulated ½-inch pipe to the top of the tank, where it was sprayed through a nozzle into the chamber of air or gas under pressure. In Fig. 1 the compressor is shown at (d). The air-gas receiver from the compressor is shown at (f). The line (k) carries saturated or unsaturated oil to the flow tube.

Sampling Device

This was attached to the ½-inch line leading from the pump to the nozzle at the top of the tank, as is shown in Fig. 2 at (a). By proper manipulation of the valves, a sample of the oil could be by-passed into the sampler under the saturation pressure. The capacity of the sampler is 375 cubic centimeters.

Fig. 3 shows the gas-measuring device that was used to determine the gas-oil ratio of the mixture contained in the sampling device. It consisted of a ¼-inch tube ex-

[1] J. Jamin—"Memoire sur l'equilibre et le mouvement des liquides dans les corps poreux"—Compt. rend. (1860) 50- 172, 311, 385.

# of Saturated and Crude Oil

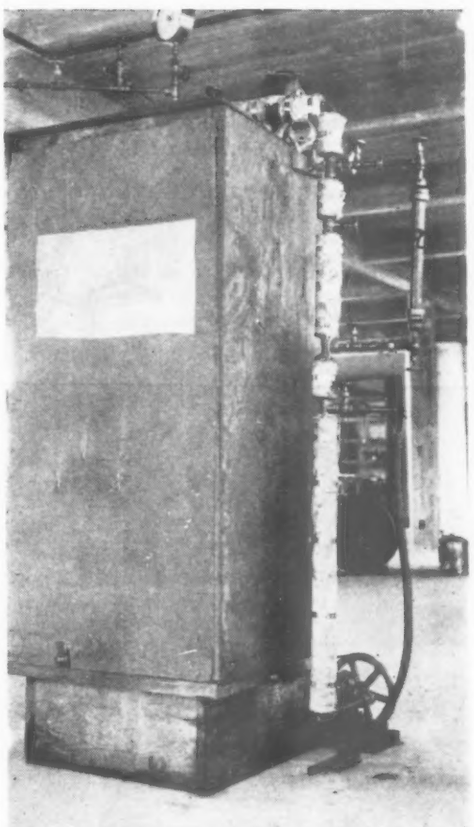


FIGURE 2

tending upward into a two-inch tube (a). The two-inch tube was kept full of water. A 30-inch glass tube (b) about 1¼ inches in diameter, drawn out at the top to ¼ inch hole, telescoped downward over the eduction tube, thus being between it and the two-inch water tube. This glass tube was calibrated in intervals of five cubic centimeters. The hole in the top of the glass tube was kept closed; and as gas entered through the ¼-inch eduction tube (c) the glass tube was slowly raised by a system of pulleys and a counterbalance (d), which was equal to the dead load of the moving parts plus friction.

The Flow Tube

The inside diameter of the flow [illegible] 3.87 inches. The

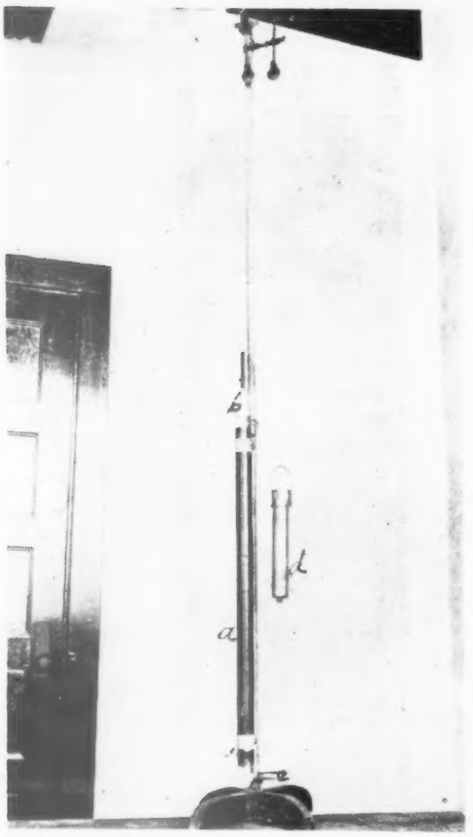


FIGURE 3

length overall is 10 feet. At a distance of six inches back from each end, and at intervals of one foot thereafter, the tube was tapped for ⅜-inch pipe connections upon which the pressure gages were placed. (See Fig. 4). The line (a) carries the oil from the saturation tank to the flow tube (b). The wooden trough used for a temperature bath is shown at (c).

The inside of the tube was swabbed with hot glue, then sprinkled with sand while the glue was still plastic, in order to prevent slippage along the inside of the steel tube.

A piece of ½-inch pipe eight inches long was perforated and then covered with monel cloth and 115-mesh gauze. This tube was screwed into a bushing and the bushing screwed into the one-inch tap in the center of the flange at the end of the tube for a distance of about 6½ inches. This method prevented the escape of sand, and eliminated the "end effect" of flow.

Maintenance of Constant Temperature

The 10-foot flow tube was kept submerged in a wooden trough lined with galvanized tin, the inside dimensions of which are 14 by 14 inches by 12 feet. Kerosene was used as a temperature bath, and the temperature was kept constant by electric immersion heaters with thermostat controls. All of the flow pipes were insulated.

Measurement of Air-Gas

A Sargent monel metal wet-gas meter (See Fig. 5 at (a), was used to measure all the air or gas coming out of solution with a measured volume of oil at the discharge end of the flow tube. This meter is equipped with a special dial graduated to read to 0.001 cubic foot. Referring to Fig. 5, (b) is the gas trap used to separate the gas or air from the oil. The amount of oil flow was measured at (c). The

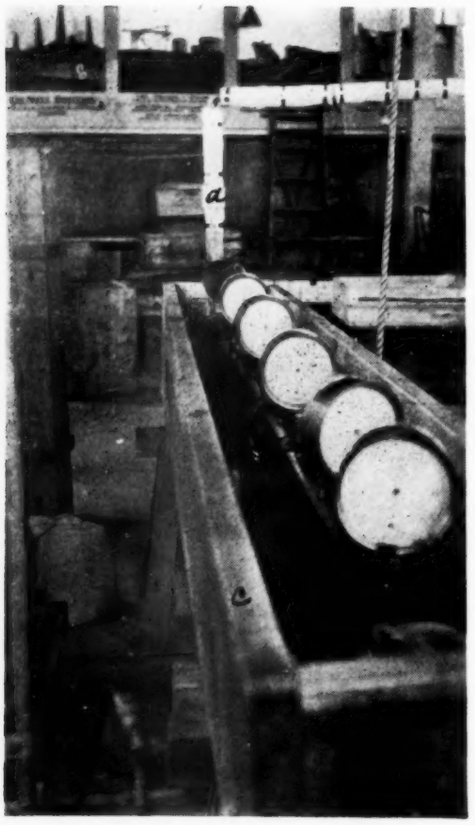


FIGURE 4

discharge line leading into (d) was used only as a by-pass while establishing equilibrium of flow before a reading was taken.

Experimental Procedure

Filling the flow tube with sand

The tube was placed on end, with all openings closed, to obtain the volume. This was done by filling the tube with a known weight of water at a known temperature. It was necessary to know the volume of the tube before the porosity of the sand pack could be calculated.

After the determination of the volume, the tube was placed on end with the perforated "well", the lower blind flange and gasket, and the gage connection nipples all tightly in place. The upper blind flange and gasket were removed, so the sand could be poured in at the top.

The sand of known density and grain size was thoroughly dried and weighed before being poured into the tube. Care was exercised to see that the room temperature at the time of filling the tube was at least 10 degrees above that to be maintained in the temperature bath in the wooden trough. This prevented the tube from expanding under the experimental pressure, and thus kept the sand grains in place.

As the sand was poured into the tube, the tube was sledged vigorously with hammers until the desired amount of sand was in place, and the tube thus packed to the desired porosity.

Unsaturated (dead) oil was then circulated upward through the tube while still in a vertical position, in order to displace the air from between the sand grains.

Methods of Operation

Most of the oil flows have been made at 250 pounds pressure. The oil of known temperature, gravity, and viscosity in the saturation tank was sprayed through the air or gas space above the oil in the tank until the gage pressure became constant, after which a sample was taken and analyzed for solubility.

The different crudes used have been saturated at the same pressure and temperature, and flowed through the same sand under identical conditions of temperature and pressure control. Usually two volume and gas meter readings were taken at each known pressure. All six gages along the flow tube were read at the beginning and at the end of each five-minute run.

Gas Used

All the natural gas used in this work was a dry gas from the Chickasha gas field near Chickasha, Oklahoma.

Crude Used

The following types of oil were used in these experiments:

Kiefer—A. P. I. gravity 31.5 degrees at 60°F.
Saybolt Universal viscosity 57.2 seconds at 100°F.
Tonkawa—A. P. I. gravity 37.3 at 60°F.
Saybolt Universal viscosity 39.7 seconds at 100°F.
Cromwell—A. P. I. gravity 33.8 at 60°F.
Saybolt Universal viscosity 53.6 seconds at 100° F.

Sand Used

Most of the sand used was from the outcrop of the Simpson formation at Roff, Oklahoma. This is a pure white sand containing 98.87 per cent quartz.

Results Obtained

Comparative Solubilities of Crude Oils

Kiefer Crude

This oil has been in storage more than 20 years. It is quite viscous, and has a very low gasoline content. At 250

(*Continued on page 59*)

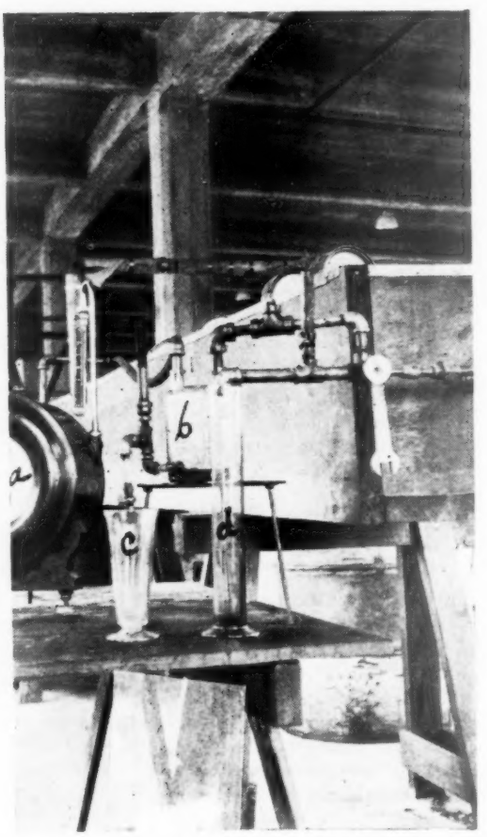
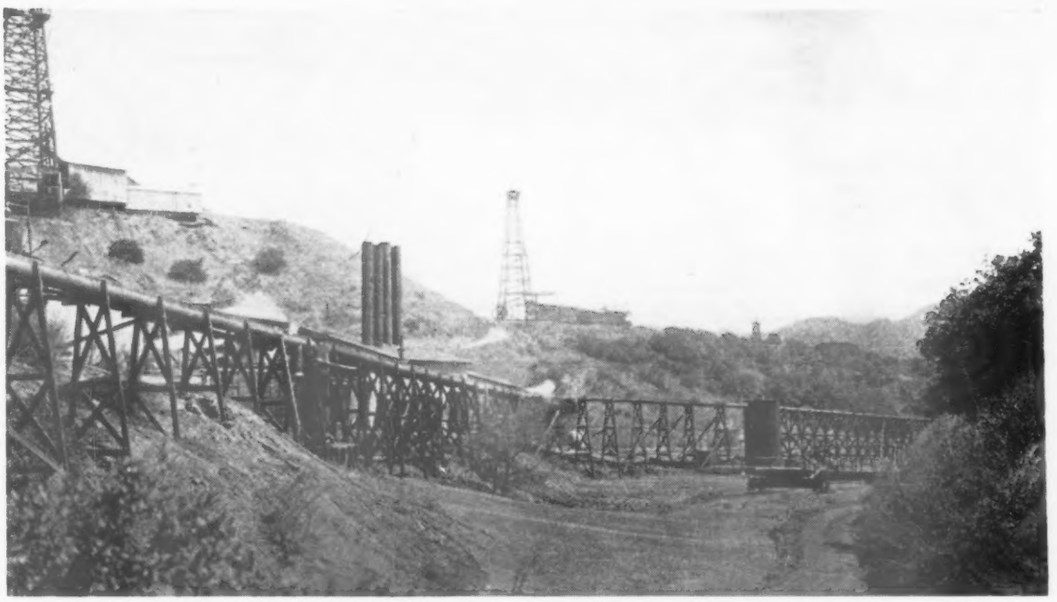


FIGURE 5



Flume and traps for carrying lease production, Cat Canyon field

Injection of Distillate Helps Gas Lift on Heavy Oil

By BRAD MILLS
Staff Representative

INJECTION of a low grade distillate into wells in the Cat Canyon field to lower the viscosity of the oil and to increase production marks the inauguration of a most unusual practice and adds another phase to operation of leases in one of California's most unusual fields.

Producing a very viscous 8-12 gravity crude, Cat Canyon attracted wide attention several years ago by the announcement that wells being pumped at a profit in the face of competition from lighter producing districts. Subsequently gas lift methods* proved a success and the oil, normally as thick as jelly, was brought to the surface with a still greater margin of profit. Engineers who heard of the feat doubted the success of the method, but continuous operation at a profit over a period of years was ample proof of the efficiency of the practice.

Operators in light oil fields have found it difficult enough to produce small wells at a profit over a long period, and it is largely for this reason that anomalous condition at Cat Canyon has attracted such wide attention. The discovery of oil here years ago was followed by successful pumping, gas lift and the most recent distillate injection methods to be described.

Field practices at Cat Canyon have been unlike those in any other American field. The nature of the oil, sand problems and necessity for cleaning crude have not been barriers which prevented a fairly steady production. Rated as wholly unimportant when compared with the critical fields of the state, Cat Canyon's bid for fame must be derived from a source far removed from the usual category.

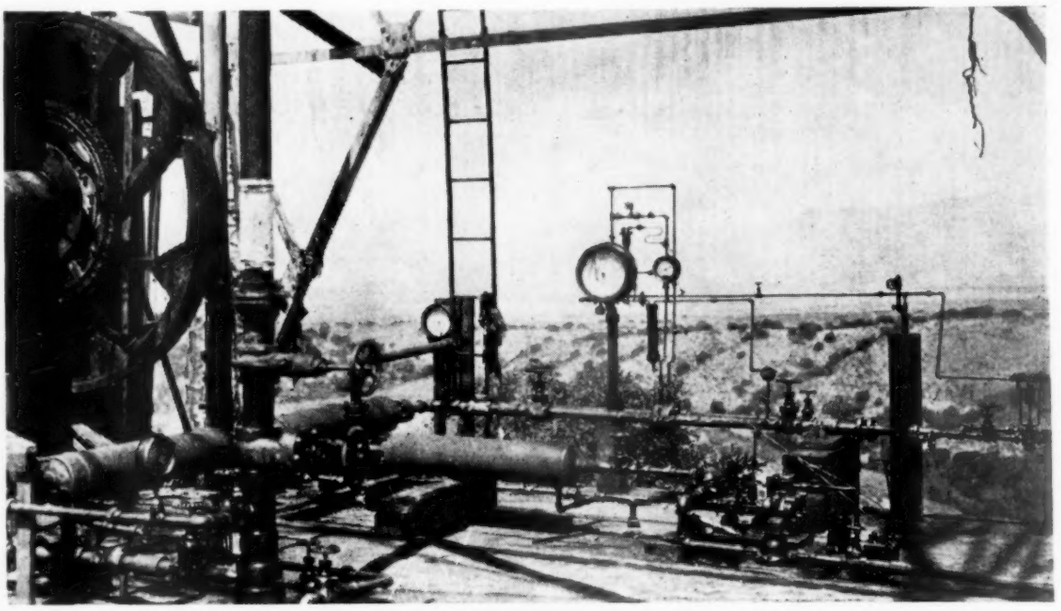
EDDY BEACH
Superintendent for R. & G. Oil Company, Cat Canyon field

Petroleum engineers, accustomed to practices in the larger fields, are often bored at their lot when assigned to a study of field practices at Cat Canyon, but the practical engineer can see a real achievement in the odd series of hookups which do their work well. It is believed that into the wells may lead to an elaboration of the idea at some future date in fields where final efforts will be made to recover oil at a profit. The feasibility of a combined gas and distillate lift is also proven. Most of the production methods in vogue here were perfected after a study of local conditions, many of the discarded ideas bordering too closely upon the line between success and failure to stand.

Methods of Injection

Injection of distillate into the wells is being accomplished by three methods, two of which are similar and carried out in connection with gas lift installations and one being confined to pumping wells. The methods might be termed combination gas and distillate lift practices, since the addition of the distillate has almost as important a role as has the gas. In-

*"Gas Lift Economical in Handling Heavy Oil," by George Reid, THE OIL WEEKLY, Nov. 12, 1926.



R. & G. Oil Company's hook-up for injecting gas and distillate simultaneously into Cat Canyon wells

jection into pumping well is one of the most novel operations ever tried successfully in California and the thinning out of the oil has more than offset the added expense.

R. and G. Oil Company and Palmer Union Oil Company, principal operators in the field, are adding to their distillate injection equipment. Both have been successful in the practice and will adopt the method as standard on the better wells. These companies differ in their methods of injection, partially because of a difference in their gas lift practices but largely because of the experimental nature of the operation. The trend is gradually toward a combination gravity-pressure feed of the distillate into the wells in common with the gas injection.

The hookup of Palmer Union Oil Company is much less elaborate than that of R. and G. Oil Company, but its success in increasing production has been little short of phenomenal for such a viscous oil. The distillate container is made from two joints of 12-inch casing and placed parallel with the derrick floor about three feet above the point of entry into the well of both the gas and distillate. This does not mean, however, that the container is immediately above the point of entry, the explanation being made to show the importance of the difference in elevation. One end of the container is placed about 12 feet from the well, the 40 feet of pipe extending to a point back of the engine house.

The container is of welded construction and is filled by pumping the fluid in through a small connection on top of the end removed from the well. The main outlet leading to the well drops down from the bottom of the container near the opposite end. During early experiments the weight of the distillate was depended upon to force a mixture with the gas, but it was found that the gas pressure was sufficient to keep the liquid pushed back and render it virtually useless. To remedy this a small gas line was extended from the gas feed line to the very end of the distillate container. This equalized the pressure between the gas line and the distillate container and made the gravitational feed of the liquid possible. Since the incoming gas pressure was exactly equal to that held on the container, the elevation of the improvised holder was ample to cause a flow toward the well, eventually leading to a mixture of the gas and distillate where they entered at a common point.

The feed or rate of flow of the distillate from the container to the ordinary tee where it is mixed with the gas is controlled by an ordinary valve. Gravity and the size of the opening determines the rate of flow. The distillate flows through a one-inch pipe, through a heater and to the tee just above the derrick floor. The gas, under pressure of about 350 pounds, is heated and sent into the well through the same one-inch tee.

Gas Lift Hookup

To understand the action of the mixture, an explanation of the gas lift installation is necessary. Strings of 8⅝- or 10-inch casing are run to the top of the oil sand for the final shutoff. Four-inch tubing is used, this large size being especially suited to the heavy oil. The tubing is run to some point well below the fluid level. A string of one-inch pipe is run simultaneously with the four-inch tubing, the smaller string entering the tubing at some point near the bottom of the latter. It is obvious that the one-inch pipe is used for injecting the gas and distillate, while the four-inch tubing carries the oil to the surface. Prior to the injection of distillate, it was found most practical to force the gas into the well through the very small pipe and at some point below the fluid level. Inauguration of the distillate practice did not necessitate a change in the piping arrangement, except on the surface. The large casing run to the top of the oil sand allows ample space for running both the four-inch tubing an one-inch gas-distillate line.

Mixing of the gas and distillate at the one-inch tee above the derrick floor gives the two agents a chance to form the most effective medium in their course downward. Both may be heated and the best cutting effect obtained. The quantity of distillate used is small when compared with the value of the increased recovery of crude. The containers hold enough distillate to run six hours under normal conditions.

In a few wells, production was more than doubled after the injection of distillate. Prior to the use of the fluid,

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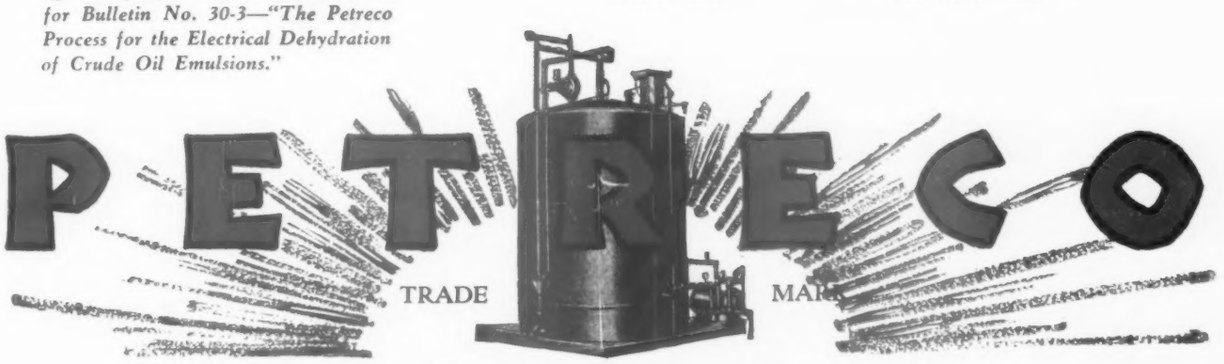

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the leases were producing at the rate of about 25,000 barrels per month. Recently the same leases were producing at the rate of 70,000 barrels per month. An average well would not require more than 20 barrels of distillate per day.

R. and G. Oil Company has devised a method of injecting distillate with the gas which has increased production sharply at small expense. This company has employed gas lift methods in the field for several years but the installations do not resemble those of Palmer Union Oil Company, due to a difference in the tubing arrangement. The surface equipment embodies a different plan, wherein pump pressure is utilized instead of a gravity feed and compensating gas pressure on the distillate.

The company's wells are hooked up to receive gas from the compressors through the space between the casing and the tubing. The gas merely exerts a downward pressure against the oil, forcing a flow through the tubing. This method fills a large space with gas, as against the one-inch pipe conductor on other leases, but has proven satisfactory with both gas and the gas-distillate mixture.

The mixing arrangement now being used employs the gas equipment already installed for gas lift and a 2x3x2 duplex pump for feeding the distillate. The gas comes to the well at a pressure of 350 pounds and is measured with orifice meters. The small pump picks up the distillate, forces it through a heater and into a two-inch tee where the mixing takes place. Two heaters have been installed on the line between the mixing point and the point of entry into the top of the casing. Any one or all of the heaters may be used, depending upon the need for production and weather conditions. Although this arrangement had been very successful, a tendency toward mixing the gas and distillate at the top and conducting it to some point below the fluid level through a small pipe was noted. A small liquid meter is used ahead of the small duplex pump to measure the distillate flow. About one-half barrel of distillate is being used per hour on a well producing 100 barrels per day. The mixing takes place in the two-inch tee about 20 feet ahead of the point of entry into the top of the casing.

A third method of injection, and perhaps the most interesting of the three, is the use of distillate in a pumping well. R. and G. Oil Company has succeeded in using distillate successfully, having increased the production of one well from 25 barrels to 100 barrels per day. A crosshead pump on the steam engine is used to inject the distillate through a one-inch line which has been run to a point just above the bottom of the tubing. Use of the engine for pumping the well and the small type of pump are ample for the purpose and entail a very small additional expense. This particular well had been producing a super-viscous oil and the injection of the distillate affected the producer favorably within a short time. The one-inch distillate line is run simultaneously with the four-inch tubing, being "tied in" through a rigid connection so that the full effect of the fluid may be obtained.

The gravity of the oil is raised considerably through the injection of the distillate, the difference depending upon the amount of liquid used with the gas and many other conditions. The crude flows more freely and is easier cleaned than when produced under older methods. Since the addition of distillate to the gas slightly changes the nature of the oil, subsequent handling is easier throughout the field processes.

General Field Methods

While it may be slightly away from the principal topic under discussion, a short description of field and production methods might prove of interest. A casual inspection of the properties might lead to the hasty decision that prehistoric methods had been revived, but a more careful examination of the practices discloses a well defined reason for them.

The oil is very thick when it comes from the well and exposure to the weather makes it very difficult to handle. Some time ago workmen found it necessary to cross an open ditch through which the oil was flowing from the well to settling basins. The oil was not flowing at the customary rate, due to cooler weather and the crude formed a wide puddle. The workman discovered that by walking at a fast rate they could make a few steps on top of the oil and cross the ditch without trouble. When the crude had

(*Continued on page 52*)

Palmer Union Oil Company's equipment for injecting distillate with gas

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Advantages of Insulation on Oil Field Boilers

Presented at fall meeting, Southwestern District of the A. P. I. Division of Production, Galveston, Texas, September 4, 1930

By W. H. MEIER
Chief Engineer, Atlantic Oil Producing Company

THE insulation of oil country boilers and steam lines is an important form of operating economy that until recently has been generally disregarded by operators and drilling contractors. Fuel gas is generally considered to be free or of small monetary value, so the natural thought follows that there is no need for conserving fuel by boiler insulation. However, by insulating boilers and steam lines, the saving is not limited to fuel only, but includes decreased maintenance and repair expense, less boiler shut down, greater volume of dry steam and longer useful life.

Three types of insulation are available for use; asbestos blankets, block magnesia and asbestos, and an insulating cement composed of silica fibre, asbestos and clay.

The blanket insulation consists of an insulating material sandwiched between two heavy thicknesses of asbestos cloth. The blanket is factory made to exact boiler dimensions and comes to the customer ready for installation. The blanket is supplied in sections that are laced together. Each opening on the boiler is provided for in the fabrication of the blanket and the raw edges of the blanket material are turned back and well secured.

Magnesia block is probably the most satisfactory and efficient type of insulation. Since magnesia is considered the "standard insulation," it is only a matter of thickness to obtain the desired saving of heat. The blocks, one and one-half-inch thick, are applied directly on the boiler surface and held in place with No. 14 gauge galvanized annealed wire. Over the blocks is placed a reinforcement of two-inch hexagonal wire mesh and then the entire surface is covered with cement. Around the manhole, hand holes and fittings the blocks should be beveled to give a neat appearance and prevent chipping on the edges. On field boilers exposed to the weather, the insulation should be protected by a ¼-inch coat of emulsified asphalt applied in one coat with a trowel.

Several cements are being used in Mid-Continent fields but only two types give good insulation. The mineral wool-asbestos cement is probably the most efficient and economical of the two. It consists of approximately 75 per cent mineral wool, from which it derives its insulating value, and 25 per cent binder, which usually consists of silica and asbestos cement.

The cement should be applied while the boiler is in use and in coats approximately ½ to ¾-inch thick until a total thickness of two inches has been obtained. Each inch of insulation should be reinforced with two-inch poultry netting, secured to the boiler with No. 16 gauge galvanized lacing wire. Care should be taken not to apply the layers of cement too thick and to give each layer sufficient time to dry before applying the next layer. The time required for proper drying depends on the temperature of the boiler; while drying, cracks will appear which can be eliminated from the last coat by troweling.

Also Use Asbestos Cement

The other comparatively efficient cement insulation is obtained by using a long fibre asbestos cement applied the same as above. This cement should be free of all chalk and sand and should be cleaned, mixed and processed by the manufacturer. The quality of this cement can be readily recognized by the length of asbestos fibres and roughness of texture.

Many field boilers are being covered with an ordinary asbestos finishing cement. In this cement, the fibre is very short and is classed by the trade as "Asbestos Sand" because of its fineness of texture. It has practically no insulating value compared with the above mentioned materials and is intended to be used only as a finishing coat over an insulation material. After being subjected to a temperature of 350° F. or higher, it can not be reapplied because its ingredients are not heat resistant.

These materials, except the blankets which are made to order, can be obtained from stocks of several insulating concerns located in the larger cities and who are equipped to contract the installation on a turn-key basis. Their service has been very satisfactory.

The asbestos blankets, made up in sections to fit snugly around the boiler, are best adaptable to boilers that are frequently moved and transported considerable distances, such as contractors' drilling boilers. This type of insulation is quite efficient and practically 100 per cent salvable, being very easily placed and removed by unskilled labor; however, it is necessary that each blanket be kept with the particular make and size of boiler for which it was manufactured to insure a proper fit and highest efficiency of heat conservation. The average cost is approximately $320.00 each for a 100-horsepower A. P. I. boiler in the Mid-Continent fields.

The block magnesia, adapted to use on station or lease boilers, is the type most readily obtained on short notice. It is the most efficient type of heat insulation but requires some skilled labor to install properly and in moving the boiler the loss, due to breakage, may amount to as much as 50 per cent. The average cost, in place, is approximately $250.00 per 100-horsepower boiler in nearly all Mid-Continent and Gulf Coastal fields.

The insulating cement composed of silica, asbestos fibre and clay is probably the most satisfactory insulator for oil field use, as it is easily applied and repaired by unskilled labor. It is reclaimable and after being removed from a boiler it can be reused, with no loss in efficiency, by merely mixing with water and applying again. Its efficiency is quite high and its average cost is about $225.00 per 100-horsepower boiler in Mid-Continent fields.

Insulation on boilers is not recommended as a substitute for a boiler house, but is recommended as a means of conserving heat and reducing steam plant investment and maintenance costs. A waterproof coating applied directly over the insulation and hard-finish coat will add considerably to the durability of the insulation. This should always be used on drilling boilers and other installations that are usually exposed to the weather. The above cost of each type of insulation includes the covering for steam lines and fittings in a

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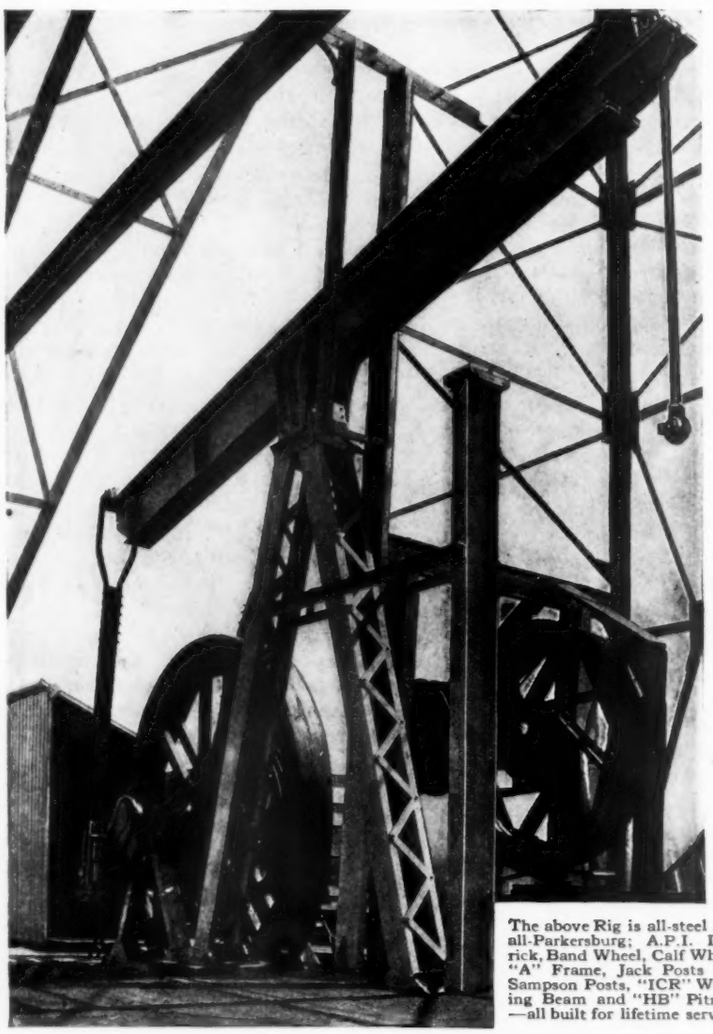

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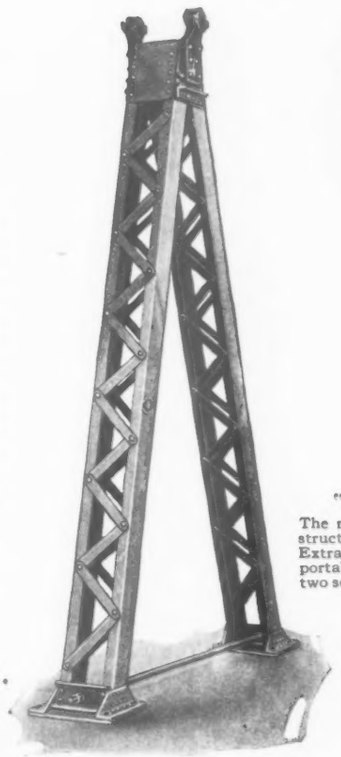

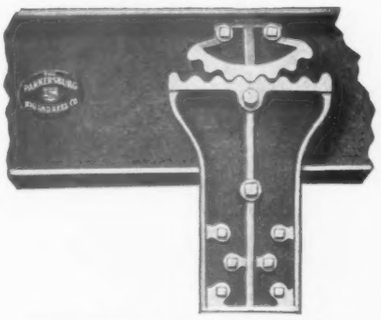

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boiler battery but does not provide for covering steam lines beyond the boiler house.

Steam Line Covering

Steam lines should be covered with standard one-inch thick, 85 per cent magnesia sectional pipe covering. Fittings and flanges should have a covering of equal thickness, composed of long fibre asbestos cement and canvas outside cover. All lines exposed to the weather should have an additional protection of a three-ply roofing jacket wired on with No. 16 gauge galvanized iron wire and the fittings and flanges should be covered with ¼-inch emulsified asphalt coating. The costs per foot of outside pipe insulated and weather-proofed as outlined, are approximately as follows:

Four-inch pipe, 80 cents per foot.

Three-inch pipe, 65 cents per foot.

Two-inch pipe, 45 cents per foot.

It is important to remember that the heat loss from a few hundred feet of steam line is equivalent to that from the entire surface of a boiler; also the hotter the steam the greater its power.

Regardless of which material is used, oil field boilers and steam lines should always be insulated, as it is a rare case where the cost will not be returned many times over.

To cite a few examples: No. 1. Four 70-horsepower boilers uninsulated were each consuming 35 barrels of crude oil per day and were not delivering sufficient steam to operate the lease properly. They were insulated in three days with block magnesia and asbestos. After insulating, the fuel consumption was reduced to 20 barrels of oil per boiler, and although the weather was much more severe and colder, three boilers carried the load very easily. The cost of $840.00 for insulation was saved in less than one week.

No. 2. Four 75-horsepower boilers uninsulated and fired with natural gas could not furnish sufficient steam, and due to heavy firing were constantly giving flue and stay-bolt trouble. The records indicated maintenance and repairs of almost $160.00 per month for each boiler. A request was made to install an additional boiler. Instead, the four boilers were insulated with block magnesia and asbestos and three boilers were then able to handle the load, which had somewhat increased, and the $160.00 per month maintenance expense was practically stopped.

No. 3. A station having two 65-horsepower uninsulated boilers was using 50 barrels of crude oil per day for fuel; the boilers were so heavily fired that it was almost impossible to remain in the boiler house because of the noise and vibration. These boilers were insulated and the fuel consumption dropped to 30 barrels per day and one boiler was able to carry the load part of the time. The cost of $410.00 for insulation was saved in less than three weeks.

These are typical cases and should be convincing that to insulate boilers and steam lines is a good investment.

Injection of Distillate Helps Gas Lift on Heavy Oil

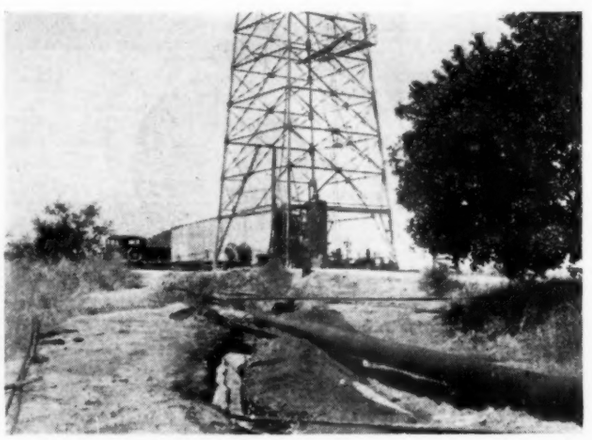
(*Continued from page 46*)

left the well, it flowed at a fair rate but it had become so viscous that it would support a man.

Open ditches, flumes, settling basins, sand traps and scrubbers all serve a purpose in the oil's journey from the well to the shipping tank. Light stovepipe casing is often used to convey the oil at least a short distance from the well while it is still warm. When these lines fail to function properly, operators resort to open ditches. Providence seems to have had a hand in elevating the field so that a common flume eventually carries all of the production of R. and G. Oil Company to a central treating and storage plant. This advantage of a natural drop to the settling basins eliminates pumping the heavy oil to storage.

The oil coming from the well passes through traps to save the circulated gas and that produced with the oil. Although the oil is very heavy, a surprising amount of gas accompanies it and the gas recovered is sufficient for all needs.

After the oil reaches a common gathering point along the flume maintained by R. and G. Oil Company, it passes through a small sand trap which eliminates most of the sand. The oil passes out and on through the flume at about the same level and enters a large sand trap or scrubber. This scrubber has a baffle plate extending from the top to a point near the bottom and is half filled with water. The oil is forced through the water and under the baffle plate, this flow removing most of the remaining sand. The oil is much more difficult to clean when conditions are unfavorable or during cold weather. Great quantities of sand are piled high near the scrubbers, reminders of several years' operations.



Oil flowing in open ditch, Cat Canyon field

The compressor plant of R. and G. Oil Company includes three, 110-horsepower Bessemer gas engines driving 12 x 3 x 12 Ingersoll-Rand compressors and one 200-horsepower Ingersoll twin unit, all operating together at 440 pounds. The wells are produced on gas lift at pressures ranging from 300 to 400 pounds.

A final cleaning operation is given the oil before it goes to the stills in Gilmore Oil Company's small refinery in the field. A new scrubber arrangement has been perfected by the company which removes sand and emulsion more effectively than any device yet used. The oil is run from the preliminary storage tank, via pumps, through preheaters and into the scrubber or dehydrator, a pressure of about 15 pounds being held. The oil then passes to another settling tank before going to storage for stills or to market. The cut is often reduced from 50 per cent to three per cent by the final operation.

The oil is much prized for making road oil, the crude being as near road oil in its original state as could be expected. Ordinarily a field which would be frowned upon in the Southern California district, Cat Canyon probably is affected less by the ups and downs of the industry than other California field.

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No internal stress — wires and strands are helically shaped . . . .

Note in the above illustration that the strands lie normally in position—without seizing the end. You can unwind a strand and wire as shown, and place them back into position.

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Also, no time is ever spent in putting in a back-twist.

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Interior view of station showing three four-hundred horsepower motors with direct connection to pumps

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By W. C. MORRIS
Staff Representative

WITH completion of Pure-Van Pipe Line Company's line has come that degree of progress necessary to give to the little town the final impetus needed to make it a real center of distribution for its daily production quota of 25,000 barrels of crude. Oil was delivered to Pure Oil Company's refinery at Smiths Bluff, Texas, July 11, the first oil to reach any refinery from Van other than by tank car. This line was found to be the relief from storage congestion that the field had needed since first production was discovered last October.

A 10-inch line was laid to Chandler, Texas, last December and the crude was handled by tank cars from the loading racks there. The line was 18 miles long and was put down by Pure Oil Company to handle its own production. This branch was capable of handling 8000 barrels of crude daily, and helped relieve the field of its storage problems for a short time until production was increased far beyond its small capacity.

The primary discharge station of the pipe line is located about three miles northwest of Van on the Clowers farm. In spite of the very desolate looking country which surrounds the station the impression is immediately gained of the extra efforts put forth on the part of the architect and the contractor to convert the place into a veritable garden spot. The substantial station house with its white exterior walls and the slate roof presents an appearance that is in direct contrast to the orthodox box-like structures which have been characteristic of pump stations for the last few years.

The same beauty of design characterized in the station house was carried out in the building of the little English homes for the three operators and their families. The employment of every modern convenience makes the homes ideal places in which to live. The general plan of arrangement of both the houses and the grounds signifies a desire for comfort and beauty as well as convenience of location.

Rear view of station presents neat appearance with convenient location of valves

Directly behind the pump station is the transformer station, neatly laid off and surrounded by a high fence and beyond that is the tank farm of 55,000-barrel tanks. There are 10 of these tanks which handle the excess crude stock from the gather-

ing stations in the field. All enclosures on the yard are painted and afford protection for the Darling and Walworth valves used throughout. The interior of the station presents an array of neatness and symmetry of arrangement that is in perfect harmony with the exterior of the building.

The control room is located next to the operator's office where it can be reached at a moment's notice and all currents can be controlled by one central switch. The operator from his desk has a commanding view of the entire station room. Three operators are employed to run the station, each on an eight-hour shift.

The engine room is a pattern of orderly arrangement with its three motors and pumps in perfect alignment. All intake and outflow lines are encased in the same red tile which is used throughout the station on the floors and wainscoting. The three general electric induction motors are capable of developing 400 horsepower each at 3565 r.p.m. Each motor is connected by direct drive to a six-inch Worthington centrifugal pump which has a capacity of 15,000 barrels of crude daily with a line pressure of 800 pounds per square inch. Current for the motors is supplied by a high voltage line of Texas Power & Light Company. The office is equipped with telephone connections to company headquarters and the field gathering stations and also has telegraph and telephone connections with all stations along the pipe line to the refinery at Smiths Bluff.

R. H. Parr, who looks after the Van district for the Pure-Van Pipe Line Company

Flows by Gravity

The problem of getting the oil from the field to the tank farm has been overcome by taking advantage of local topography, effecting delivery by gravity flow. The oil from the well goes to the flow tank battery through lines to the field gathering station pumps from which it is pumped directly into the tanks at the tank farm if gravity flow cannot be used. At present there are five of these gathering stations in use while increased production shows need of more stations.

Stations similar to the one at Van are being built along the line from Van to Smiths Bluff. When construction is complete there will be three permanent stations of three units each and three booster stations of two units each. The three permanent stations have been completed at Van, Rusk and Woodville and are operating in conjunction with the Van station for the delivery of oil to the refinery. Booster stations will be built at Ballard, Diboll and Nona as they are needed to help push the oil through the lines.

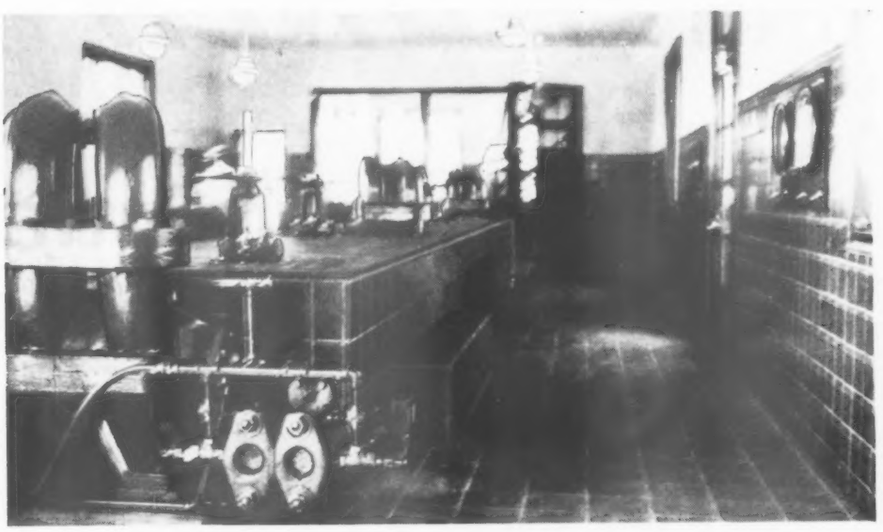
Actual construction of the line required 108 days from day of first activity until first oil was moved through the line. This unusually fast time made in line laying has been seen as the result of the efficiency in the organization with J. M. Averill, Beaumont, as superintendent of construction for the pipe line company. Two crews were started to work on the line, one from Chandler, Texas, and the other from the refinery at Smiths Bluff, working north. Fair weather held out during most of the period of construction and proved a great aid to the crews in making unusually good time in laying the line. Pipe for the line was supplied by A. O. Smith Corporation and all welding work was done under supervision of the same company. Other details of construction were handled by Mr. Averill.

Interesting details in construction of the line were developed from the extraordinary time made by the welders. Some of the welders turned in as many as 50 to 70 roll welds per day while the tie-in men turned in as high as 53 tie-ins in one day. Welds completed in four minutes although not uncommon, were regarded as unusually fast welding up to this time. The new welding process employed by the contractors not only helped make very fast time but also eliminated many of the leaks and breaks ordinarily encountered in line construction. Final tests of the line showed only three minor leaks in the field welds for the entire 190 miles and no breaks from handling or bending the pipe during the course of construction.

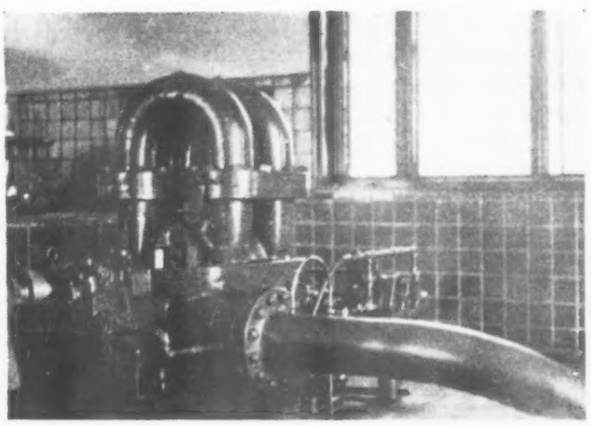
Daily runs of crude through the line have been about 26,000 barrels, requiring the use of only two of the three units contained in each station while the line is capable of handling approximately 46,000 barrels of oil a day.

Homes of operators, combining beauty of design and comfort, lend pleasing appearance to station

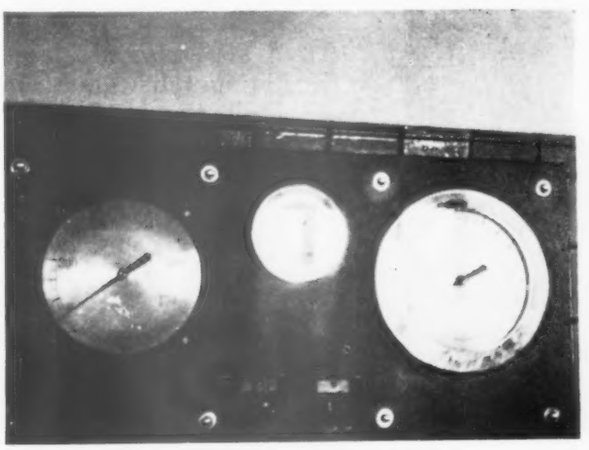
English architectural style gives relief from the familiar box-like structures



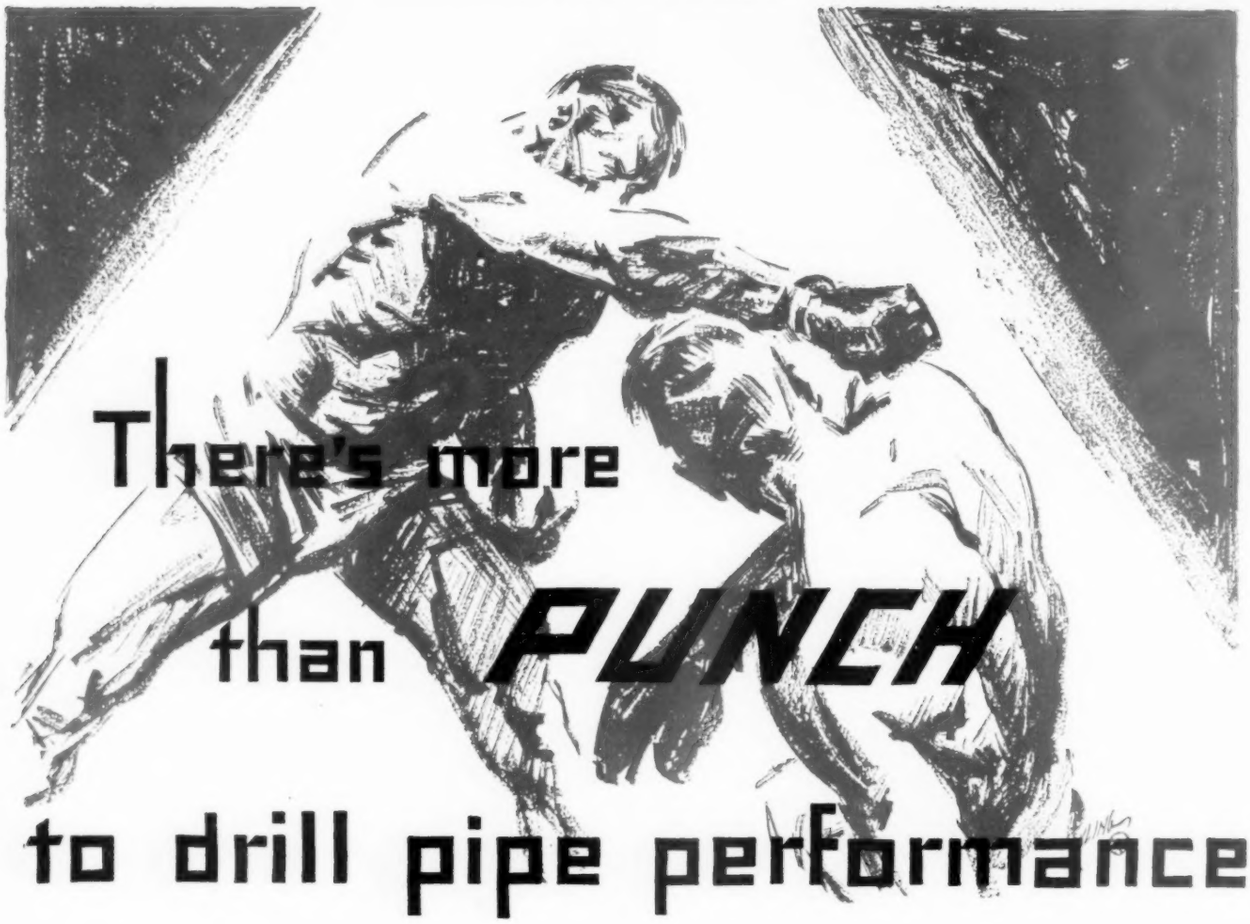
Intake and discharge lines are encased in same red tile used throughout station on floors and wainscoting



One of the three six-inch centrifugal pumping units in the Van station



Indicator control boards used with each pumping unit



There's more than PUNCH to drill pipe performance

3032

In good drill pipe, as in a good fighter, it isn't always brute strength that wins the battle. The ability to *take* punishment is as necessary as the ability to give it. As a string of pipe goes deeper and weight and pressure increase, ductility is every bit as essential as strength.

The selected steel from which Pittsburgh Seamless Interior Upset Drill Pipe is made is naturally tough and ductile. The modern equipment and methods by which it is pierced, rolled and upset increase its original strength. A normalizing operation at the finish restores the original toughness and ductility of its high-grade steel. Pittsburgh Seamless Pipe has the strength *and* the ductility that assure complete safety, no matter how deep the well or how heavy the string may be.

Pittsburgh Seamless Interior Upset Drill Pipe is available for quick delivery in a wide range of sizes and weights including minimum tensile grades of 95,000 and 110,000 pounds per square inch.

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Pittsburgh Seamless

INTERIOR UPSET DRILL PIPE

Flow Characteristics of Saturated and Unsaturated Crude Oil

(Continued from page 42)

pounds saturation pressure, 375 cc. of it will absorb 2711 cc. of dry gas at 86°. This is a gas-oil solubility factor of 7.23.

At 86 degrees it will absorb 716 cc. of air. This amounts to an air-oil factor of 1.90.

Tonkawa Crude

This oil was from the Wilcox sand. At 86°F. it had an A. P. I. gravity of 39.5 degrees. The gas-oil solubility factor was 9.50.

At the same temperature this oil absorbed 1025 cc. of air per 375 cc. (sampler full) of oil. This was an air-oil solubility factor of 3.00.

Cromwell Crude

At 86°F. this oil absorbed 3125 cc. of gas at 250 pounds pressure, a gas-oil solubility factor of 8.33.

At the same pressure and temperature, 749 cc. of air were absorbed. At 125 pounds pressure this oil absorbed 370 cc.

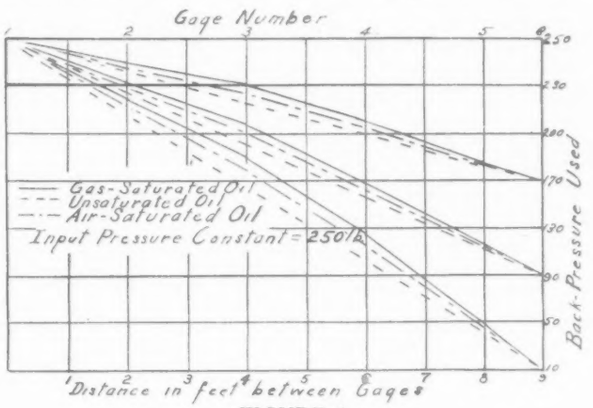


FIGURE 6
Pressure Gradients of Various Back-Pressures

of air. This amount was proportioned to the customary pressure of 250 pounds at the same temperature.

Unsaturated vs. Saturated Oil

In all cases the unsaturated (gas-air free) oil of all types flowed faster at equivalent pressures than the same oil when saturated with either air or gas. This illustrates the effect of bubble resistance or Jamin effect.

The pressure gradient throughout the entire length of nine feet along the flow tube between the pressure gages is a straight-line curve when unsaturated (dead) oil is flowed; that is, the rate of flow and pressure-drop per foot for "unsaturated" oil is uniform, and is proportional to the input or discharge pressure.

Unsaturated oil will flow faster through the same sand at the same pressure and temperature, and yet maintain a lower pressure-gradient than will an oil saturated with either air or gas. This is true whether the various mixtures are back-pressured or not. Fig. 6 shows typical pressure-gradient curves for air-saturated, gas-saturated, and unsaturated crude oils flowing under various back-pressures.

Air-Saturated vs. Gas-Saturated Oil

Air-saturated oil will flow at less pressure than gas-saturated oil, and the gradient curve will be straighter. This is shown on Figs. 6 and 7.

Apparently the oils of higher A. P. I. gravity and low

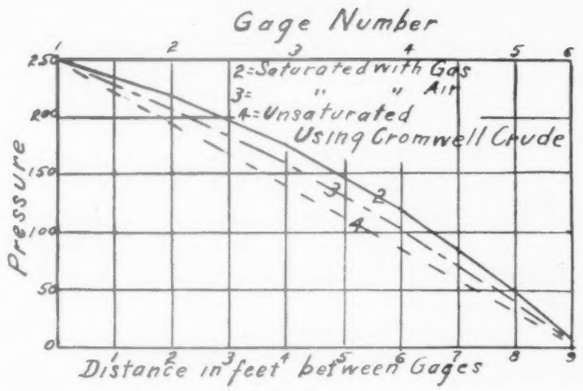


FIGURE 7
Pressure Gradients discharge valve wide open

viscosity flow faster when saturated with gas, provided adequate back-pressures are used. The more viscous oils seem to flow faster when saturated with air. (See curves 4, 5, 6 and 7 of Fig. 8).

Judging from the types of oil and the dry gas used in this work, gas is approximately 3.76 times as soluble as air at the same pressure and temperature.

Grain Size and Rate of Flow

At 100 pounds pressure unsaturated Cromwell crude flowed 14.2 times as fast through 20 to 24-mesh Ottawa sand packed to 36.7 per cent porosity as it did through 60 to 80-mesh Simpson sand.

Cromwell crude unsaturated flowed through 60 to 80-mesh Simpson sand at the rate of 685 cc. per minute at 250 pounds pressure. The same crude at the same pressure flowed at the rate of 280 cc. per minute through 80 to 100-mesh Simpson sand.

Variation of Rate of Flow With Distance

Unsaturated Tonkawa crude flowed through 60 to 80-mesh Simpson sand packed in a one-inch tube five feet long, packed to 35.5 per cent porosity at the rate of 210 cc. per minute. In a one-inch tube two feet long, using the same sand at 36.0 per cent porosity, the same crude under the same conditions flowed 530 cc. per minute. This means

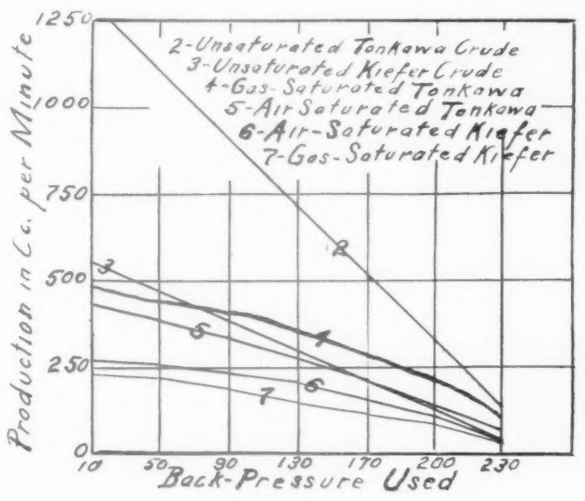


FIGURE 8
Comparative rate of flow

that the rate of flow is inversely proportional to the length of the flow tube if the other factors are constant.

Conclusions

The following conclusions are typical of the characteristics of the flow of saturated or unsaturated crude oils in unconsolidated sands:

1. The rate of flow of an unsaturated or saturated crude oil is inversely proportional to the length of the flow tube.

2. Unsaturated crude oils flow faster at the same input pressure than do the same oils when saturated with either air or gas at the same temperature.

3. The pressure-gradient throughout the entire length of the flow tube is practically a straight-line curve when unsaturated oils are used; that is, the rate of flow and pressure drop are uniform, and are proportional to the input or discharge pressure (back-pressure).

4. Viscosity is the prime factor affecting the rate of flow of an unsaturated crude oil.

5. The resistance offered by the presence of gas bubbles as gas comes out of solution along the flow tube is the prime factor affecting the rate of flow of a saturated oil.

6. Gas-saturated crude oils of low viscosity respond better to back-pressure control than do air-saturated or unsaturated oils.

7. A slight change in temperature will more readily affect the rate of flow of an unsaturated oil than it will a saturated oil.

8. Gas or air bubbles in a saturated mixture cause least resistance to flow when high back-pressures are used, and are released slowly to pressures below the input pressure. Applying high back-pressure after gas-saturated or air-saturated crude has been subjected to open flow will not again obtain the same rate of flow as was obtained by gradually opening the discharge valve to high back-pressure, permitting the gas to come out of solution slowly,thus controlling the size of the bubbles between the sand grains. Bubbles once formed are difficult to reduce in size sufficiently to re-establish the initial rate of flow as obtained at higher back-pressures.

Finishing Touches Put to Exposition Grounds
(*Continued from page 39*)

Tulsa the evening of October 3, when he will discuss the exposition.

A. P. I. Directors Meet

The day previous to the opening, directors of the American Petroleum Institute will hold a meeting in Tulsa. A similar meeting was held last year. Many of the directors of the American Petroleum Institute plan to be in Tulsa during all or part of the exposition, so the meeting here is a convenience as well as a timely event.

The petroleum section of the American Society of Mechanical Engineers will hold its fall meeting October 6, 7 and 8 in the auditorium at the exposition grounds. In the past this meeting has been held in Tulsa but not at the exposition. The first two days will be devoted to subjects within the producing and transportation division of the petroleum industry, while the third day will bring refining subjects before the delegates.

The exposition golf tournament, an annual affair which is again being arranged by Frank Gray of Prairie Oil & Gas Company, promises to draw a more impressive set of contestants than ever before.

Organizations connected with the petroleum industry, which will participate in the exposition either directly or indirectly are: American Petroleum Institute, United States Bureau of Mines, American Society of Mechanical Engineers, American Institute of Mining and Metallurgical Engineers, American Association of Petroleum Geologists, Association of State Geologists, Mid-Continent Oil & Gas Association, Independent Petroleum Association of America, Natural Gasoline Association of America, Scouts and Landmen's Association, Tulsa Purchasing Agents Association and National Safety Council.

Some of these will hold meetings in Tulsa during the exposition. Others will take advantage of the event for meetings of officials or of committees.

Through the safety division of Mid-Continent Oil & Gas Association, National Safety Council has an opportunity to demonstrate its work in one of the major industries. The annual first aid meet is held each year. This year it will be held indoors for the first time. The evening following the event the annual banquet will be held.

Each year the annual meeting of the Kansas-Oklahoma division of Mid-Continent Oil & Gas Association is held during the exposition. The election of officials is followed by the annual banquet, which draws speakers of international reputation in both petroleum and other business circles.

No More Expositions Until May, 1932

Tulsa.—The eighth annual International Exposition and Congress will not be held until May of 1932. This decision of the executive committee here September 10, came after the matter had been under consideration for several months. The decision resulted from a desire to get the event changed from the autumn to the spring season and also to permit the scientific and manufacturing divisions of the petroleum industry to bring out new equipment and devices for display.

The statement by W. G. Skelly, president follows:

"Those who have given little attention to the work that has been done in the research laboratories and the company work shops will not know how drastic have been the readjustments which have characterized this period of the oil business until they visit the exposition in October.

"Everywhere the men who furnish the industry's equipment and implements are calling for more time in which to select from the flood of innovations all that is of real value. The purpose of the exposition is to clarify, not to confuse with little tried information and material, so it naturally follows that the oil show looks upon the 18 months which will separate the seventh from the eighth exposition as a period of wholesome invoicing throughout the industry."

Suman Made Chairman of Yates Committee

Dallas, Texas.—At a special meeting of the Yates Proration Committee held here on Friday afternoon, September 10, John Suman, Humble Oil & Refining Company, Houston, was elected chairman of the committee, succeeding Warner Clark. R. H. Morrison, of the California Petroleum Company, Dallas, was also appointed a member of the committee. No other business was brought up at this meeting, although the committee was in session for a period of about two hours.

Factors Affecting Efficiency Of Gas-Driven Methods

RECOVERY of oil from sands by the gas drive has been studied at the Petroleum Experiment Station, Bureau of Mines, Bartlesville, Oklahoma, and the results of the research are available in Report of Investigations No. R. I. 3035. This study of stimulative methods of oil production was carried out and reported by Joseph Chalmers [1], O. N. Nelson [2] and D. B. Taliaferro [3].

The experimental data presented in the report show that a number of factors affect the efficient recovery of oil from sands by the "gas drive." The density of a pressure medium has some effect upon oil recovery with a "gas drive" because of the greater kinetic energy available in a denser medium.

Control of the injection rate is advantageous because by such control gas-oil ratio and energy expended may be reduced. The solubility of a pressure medium is important not only because of a reduction of the viscosity and the surface tension of the oil but also because of an increase in the volume of the oil due to the dissolved gas which increases the saturation of the sand and therefore tends to reduce gas slippage.

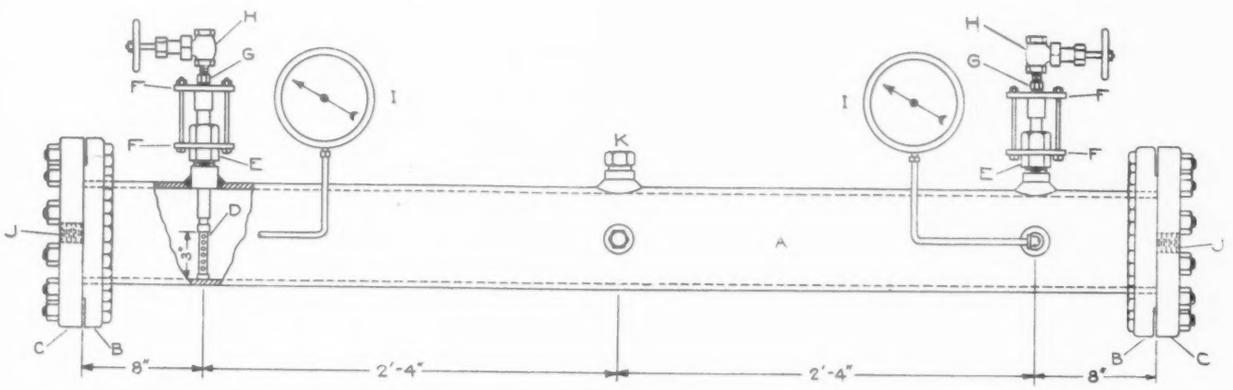
If the increase in the volume of the oil is not sufficient to fill the voids completely a further benefit may be derived from expansion of the gas from solution. Knowing the frothy consistency of oil with gas in the occluded state one may visualize a similar condition within the body of the sand when gas expands from solution. As this condition probably can be brought about within the pore spaces of the sand its effect would be more complete filling of the interstices with an oil and gas mixture. This occupancy of the pore spaces would tend to prevent slippage of gas through the less saturated portions of the sand and to complete filling of the voids in this manner would reduce "by-passing." Under such conditions more of the piston effect would be introduced in to the "gas drive" by giving the pressure medium a surface to work against. This explanation probably applies to instances in field operations where "by-passing" has been reduced by the use of "wet" gas.

Gases of high density and viscosity show a tendency toward a slightly higher efficiency. Solubility of the gas in the oil also affects the efficiency of oil recovery. Dissolved gas not only decreases the viscosity of the oil, but dissolved gas that expands from solution in the oil tends to increase effectiveness of the "gas drive." Interfacial tension between the oil and the gas and its effect upon the recovery of oil by gas injection are factors of which little is known. Dr. A. G. Loomis (Senior Fellow, Mellon Institute, Pittsburgh) expressed the opinion that interfacial tension probably plays a minor role in the recovery of oil, except under conditions that produce a gas-oil foam. In connection with the above physical properties that influence the actions of a pressure medium, control of the injection determines to a great extent the amount of slippage and the resulting efficiency of the operation. The importance of volume control is realized when one considers that frequently it is the only factor that is under complete control of the operator.

Flow Tools Employed

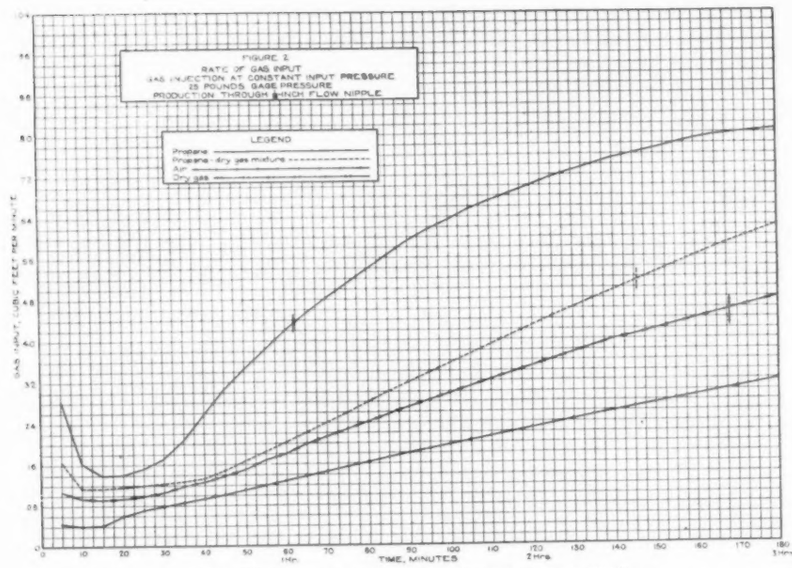
The experiments were performed with flow tubes, which were containers for the reservoir sands, details of the tube being shown in Figure 1. These tubes were filled with a

1—Petroleum engineer, U. S. Bureau of Mines.
2—Formerly associate petroleum chemist, U. S. Bureau of Mines.
3—Assistant chemical engineer, U. S. Bureau of Mines.

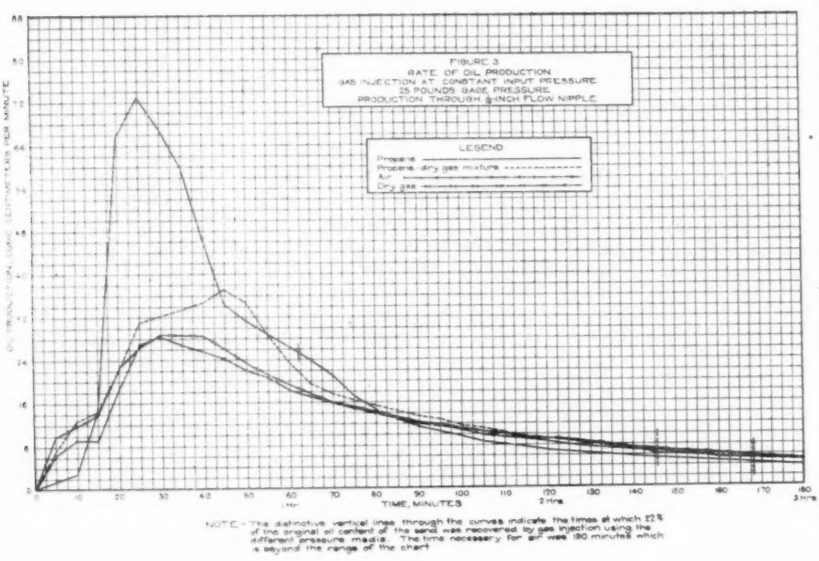


A—6 Inch, 19 pound black wright steel pipe, 6 feet long.
B—Companion flange threaded on 6 inch pipe so that end of pipe is flush with face of flange.
C—Blind flange.
D—Perforated screen pipe.
E—Stuffing box.
F—Anchor clamps and anchor bolts.
G—Flow nipple or "bean."
H—High pressure globe valve.
I—Test pressure gages.
J—1 Inch threaded hole through blind flange with screen bushing for pipe connections.
K—Thermometer well.

FIGURE 1—SIDE ELEVATION OF FLOW TUBE WITH MINIATURE WELLS



NOTE - The distinctive vertical lines through the curves indicate the times at which 22% of the original oil content of the sand was recovered by gas injection using the different pressure media. The time necessary for air was 180 minutes which is beyond the range of the chart.



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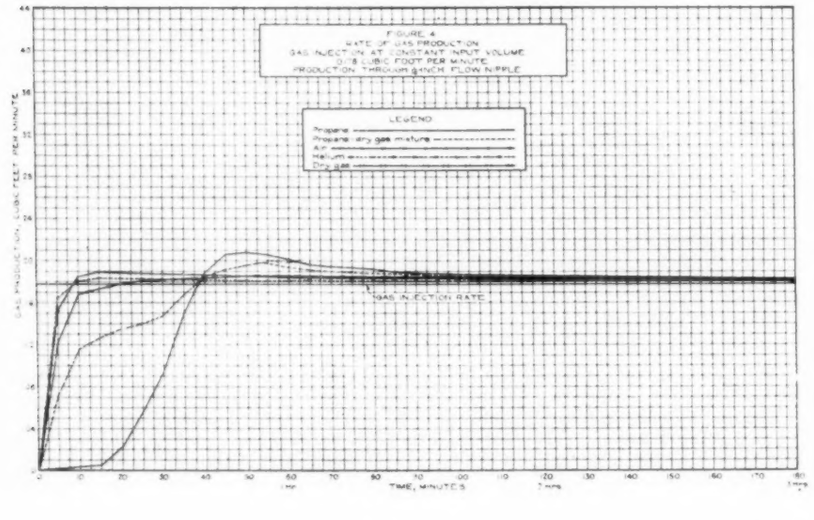


white, fine-grained, quartz sand taken from an outcrop of the Wilcox formation at Roff, Oklahoma. The oil used was Bartlesville sand crude obtained from wells near Bartlesville, with gravity weathered to 33 degrees A. P. I. Five gases were used in the series of experiments—propane—a mixture of propane and dry gas, air, dry gas and helium. Two general types of gas injection runs were made. In one, the pressure media were forced at a constant input pressure of 25 pounds per square inch gauge, through the artificial body of sand partly saturated with oil. In the other, the pressure media were forced through the body of sand partly saturated with oil at a constant input volume of 0.178 cubic feet per minute.

The results of the experiments in which the input pressure during gas injection was maintained at 25 pounds per square inch are given in Figures 2 and 3 and Table 5.

Figure 2 shows that the more soluble pressure media passed into the partly depleted sand more readily than those less soluble. Figure 3 shows that injection of the more soluble pressure media resulted in higher rates of oil production and therefore quicker recovery of oil. The data given in Table 5 indicate that the specific gravity of a gas influences its efficiency as a pressure medium if the efficiency of a pressure medium is measured by the ratio of the volume of gas injected to the amount of oil produced. Propane with a specific gravity of of 1.523, the heaviest gas used, was most efficient. The specific gravity of the pressure media serves as an index of their relative efficiency by this method of comparison.

The relative efficiency of the pressure media may be further considered upon the basis of the work done in recovering a definite quantity of oil. The amount of work done by each gas in recovering 22 per cent of the original content of the sand additional to the 23.3 per cent "natural flow," also is given in Table 5.

Constant Input Volumes

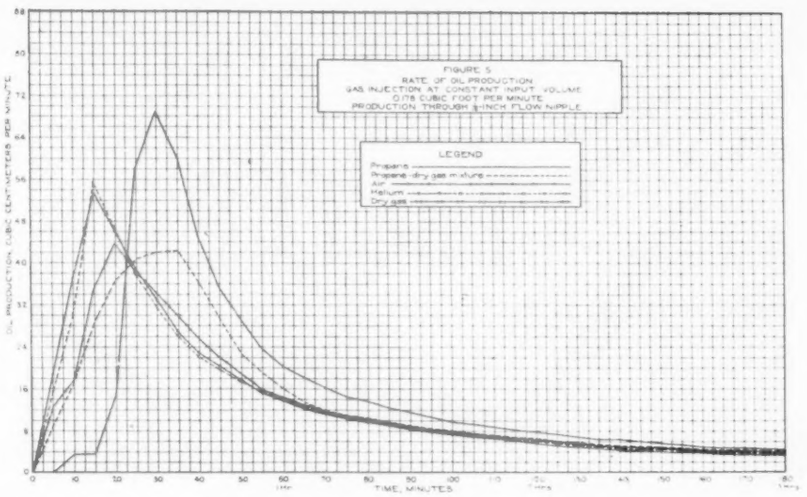
Data concerning the experiments in which the pressure media were injected at a constant input rate, are presented in Figures 4 and 5 and Table 6. These afford much the same interpretation as the data for the first general type of experiments. However, the resultant effect of the solubility of the various pressure media was more pronounced both in point of the rate of gas production (Figure 4), and the rate of oil production (Figure 5.)

In both types of experiments the density of the pressure media seemed to be a factor influencing its efficiency as a propulsive agent in the recovery of oil

and due to the persistence of this indication helium was used in the second group of experiments because it was almost insoluble in oil and had a specific gravity much less than air. The result shows that the density of a gas does enhance its value as a pressure medium, but only slightly. This is shown a little more clearly in Table 6 than in Figure 5.

Comparison of the data presented in Figures 2 and 3 Table 5 with the data in Figures 4 and 5 and Table 6, respectively, brings out more forcibly the value of input-volume control in gas injection. These data indicate to some degree the comparative results that might be expected in the field with and without volume control. Volume control operations are more efficient from nearly every standpoint. Judicious application of volume control will require the injection of less gas and should result in quicker recovery of the oil, lower total gas-oil ratios, lower average injection pressures, and consequently less work done to recover the oil than when the volume of input gas is not controlled.

The curves in Figure 6 give a comparison between the experiments in which a 1/16-inch flow nipple was used in the producing well and those in which 1/32-inch flow nipple was used. The propane runs were chosen for the comparison because the difference in the results were the most pronounced. The energy stored in the oil in the form of dissolved gas was dissipated after the oil passed the flow nipple and did not aid in the work of moving the oil to the producing well other than effecting a decrease in the viscosity of the oil. Under the slightly increased back pressures when the 1/32-inch flow nipple was used less oil was recovered by using the same volume of propane as when the 1/16-inch flow nipple was used.



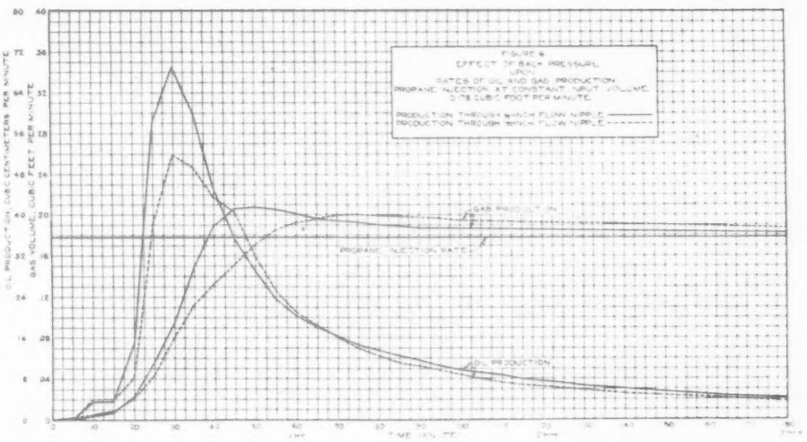


FIGURE 6
EFFECT OF BACK PRESSURE
UPON
RATES OF OIL AND GAS PRODUCTION
PROPANE INJECTION AT CONSTANT INPUT VOLUME
0.178 CUBIC FOOT PER MINUTE
PRODUCTION THROUGH 1/16-INCH FLOW NIPPLE
PRODUCTION THROUGH 1/32-INCH FLOW NIPPLE
OIL PRODUCTION, CUBIC CENTIMETERS PER MINUTE
GAS VOLUME, CUBIC FEET PER MINUTE
GAS PRODUCTION
PROPANE INJECTION RATE
OIL PRODUCTION

Although dissolved gas reduces the viscosity and surface tension of an oil and thereby increases its mobility the above comparison indicates that the benefits derived from gas in solution are not of more importance than those which accrue through a complete utilization of the energy of the gas. Gas that will go into solution quickly may not have sufficient energy in the state of solution to free itself from solution when pressures are reduced. The ideal gas for gas injection is therefore one that dissolve freely in the oil at the injection pressure and will be liberated from solution by the time it reaches the producing well. Since there is seldom a choice of gas for injection purposes the same conditions may be approached by control of operating pressures.

Table 5.—Comparison of Propulsive Effects of Different Gases Injected at Constant Pressure[1]

PRESSURE MEDIUM	Specific gravity	Oil recovered by "natural flow", per cent	Time interval to recover additional 22 per cent of oil by gas injection, minutes	Total volume of gas required to recover 22 per cent of oil by gas injection cu. ft.	Total gas-oil ratio for gas injection	Mean flow-tube pressures, pounds gage Input—Output		Work done to recover 22 per cent of oil by gas injection, foot-lbs.
Propane	1.523	23.3	62	15.431	1,067	25.0	5.8	21,124
Propane dry gas mixture	1.000	23.2	146	37.758	2,610	25.0	5.3	54,302
Air	1.000	23.2	190	37.851	2,577	25.0	3.5	60,959
Dry gas	.690	23.4	168	44.269	3,060	25.0	4.7	66,167

[1]The data in this table apply to a gas injection pressure of 25 pounds per square inch gage. The oil and gas were produced through a 1/16-inch flow nipple.

Table 6.—Comparison of Propulsive Effects of Different Gases Injected at Constant rate[1]

PRESSURE MEDIUM	Specific gravity	Oil recovered by "natural flow", per cent	Time interval to recover additional 22 per cent of oil by gas injection, minutes	Total volume of gas required to recover 22 per cent of oil by gas injection cu. ft.	Total gas-oil ratio for gas injection	Mean flow-tube pressures, pounds gage Input—Output		Work done to recover 22 per cent of oil by gas injection, foot-lbs.
Propane	1.523	23.2	96	17.088	1,181	17.78	3.13	20,400
Propane dry gas mixture	1.000	23.2	132	23.496	1,624	19.97	3.04	32,800
Air	1.000	23.4	130	23.140	1,600	25.55	3.10	38,800
Helium	0.138	23.4	138	24.564	1,698	23.54	2.75	39,700
Dry gas	0.690	23.5	169	30.082	2,080	18.97	2.55	41,900

[1]The data in this table apply to a gas injection rate of 0.178 cu. ft. per minute. The oil and gas were produced through a 1/16-inch flow nipple.

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WORLD PETROLEUM IN REVIEW

OIL MINE WIETZE FIELD, GERMANY

Tokio, Japan.—Japanese oil interests are now prospecting for oil and minerals in Borneo after having secured the sanction of The Netherlands government.

Mexico City, Mexico.—Production of crude oil in the Tuxpam and Panuco districts for the week ending August 23, averaged 85,000 barrels daily, compared with 84,286 barrels a day for the previous week.

Maracaibo, Venezuela.—Gulf Company's Michigan 37 in Cabimas was scene of a slight blowout on August 23. The blowout occurred while drilling out the plug from the 12½-inch casing cement job from a depth of 649 feet. Drill pipe was dropped in the hole, master valve closed and mud pumped into the well until it was brought under control.

Mexico City, Mexico.—Mexican Eagle Oil Company's 135-mile pipe line from northern Vera Cruz to this city is under construction after recent signing of final contracts. The 10-inch line will require practically one year for completion and will be laid at an estimated cost of $3,000,000. Oil will have to be pumped to a height of 6560 feet about 62 miles from the starting point. Six electrical pump stations will be built to move the oil to the peak of the mountain range from which point it will be allowed to flow to center of distribution by gravity.

Maracaibo, Venezuela.—Operations of the French Company in the district of Urdaneta have resulted in the discovery of heavy oil production at a depth of 6273 feet. This is the third wildcat that has been drilled in the territory. Leases owned by the V. O. C., Texas Company, and Union National, which are adjacent to this well, will probably be developed in the next few weeks and it is likely that an entirely new field will be added to the Maracaibo Basin.

Bucharest, Roumania.—A plan of curtailment of oil production has been worked out by operators whereby a committee representing all operators producing over 730 barrels per day will apportion a maximum allowable production for each company on the basis of (1) home consumption (2) necessary exports and (3) inventories.

Mexico City, Mexico.—Mexico's output for the month of July amounted to 3,436,516 barrels or a daily average of 110,855 barrels as compared with 3,286,802 barrels or a daily average of 109,560 barrels for the month of June.

Madrid, Spain.—Denial has been made by the office of the government oil monopoly and the department of treasury of the knowledge of an offer by the Standard Oil Company of New Jersey to lend Spain $100,000,000 for the oil monopoly.

Sydney, Australia.—South Australian Oil Wells Company, Ltd., has completed a well producing 10 barrels of oil per day from a depth of 1250 feet in the district of Gippsland, 200 miles east of Melbourne. The oil sand in this well is 38 feet thick.

London, England.—Activities in the petroleum industry in Trinidad are steadily increasing and recent investigations of the island's resources tend to show that the oil deposits of the country are much greater than were previously estimated. Trinidad led the different divisions of the British Empire in oil production during 1929 and from all indications will do so again this year since the peak of production has not yet been reached.

Bogota, Colombia.—Exports of petroleum during the first half of 1930 showed a decrease of approximately 100 per cent from the first half of 1929. Total exports for first six months of 1930 were 9,710,000 barrels compared with 18,600,467 barrels for first six months of 1929. United States was by far the leading consumer of exports, taking 7,518,749 barrels of the total shipments.

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Crude Price Cut Expected Before Market Improves

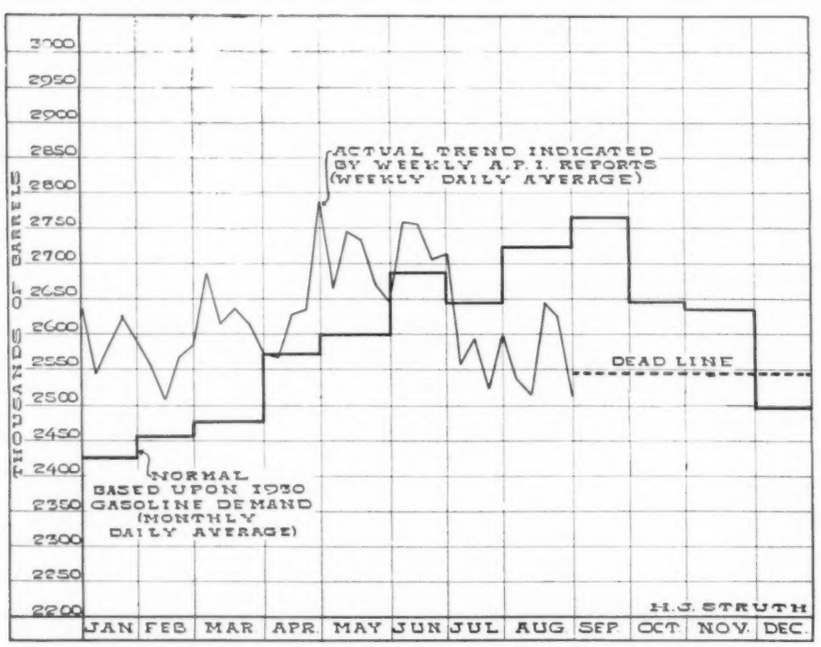
ONE underlying thought that has an important bearing upon the crude market at this time is the persistent belief that crude prices will go lower before they begin to reflect the otherwise improved statistical position of the industry. While many important operators agree that conditions have improved from a statistical standpoint, they point out the fact that an unusually large amount of storage space is now available for storing low-priced oil. Particularly is it becoming more significant to many that a sizeable amount of such storage room is being held in readiness by major companies who have already foreseen an opportunity to profit from a double-turn in the crude market. In other words, circumstances have created a condition in the crude market whereby a general cut could be inaugurated, only to be in force long enough to permit further accumulation of free oil, after which period of time renewed vigor will be brought into play to emphasize the improved statistical position of the industry, a move that could easily be met with a series of price advances.

The industry must not lose sight of the fact that current mergers will probably have some influence upon the crude market, in that a general reduction would operate most favorably in prospective trades, particularly if inventory values are depreciated before some of these mergers are consummated and marked up shortly thereafter. It's an ill wind that blows nobody good and that axiom applies admirably to the present oil situation. While a reduction is not really justified by the statistical position, it begins to look now as though there is no other alternative but lower prices. That prices will be depressed for only a very short period of time is an obvious conclusion, since there is every reason to believe that better times are bound to accompany continued curtailment.

Discussion of the immediate outlook for the industry with prominent officials of operating companies seems to bear out an apparent need for some sort of an adjustment in the crude price structure. Since there are numerous instances where prevailing prices do not reflect actual crude values on a gasoline recovery basis, it is believed that a more equitable basis of posting crude prices is necessary.

Gasoline Prices Up

The price boost in wholesale gasoline throughout the North Texas refining centers has been generally accepted by jobbers although the movement continues to be rather slow. For a while it was believed that the increased price would fail to hold but it is now felt that present quotations will be maintained at least until early in October. With continued good weather prevailing there is reason to believe that motor fuel demands will cause increased buying on the part of jobbers.



Many refiners feel confident that further inroads will be made upon stocks of gasoline within the next three weeks to the extent where further improvement will be effected in the supply situation. The fact that jobbers have been buying only sufficient gasoline to maintain current market requirements indicates that they have rather generally depleted their stocks. In that event it is logical to expect a better tone in the gasoline movement during the remainder of this month. A better demand has been experienced lately for kerosene, prices of which have held firm but the fuel oil market is marking time awaiting anticipated improvement in fall requirements. Gas oil and distillates have shown a further firming tendency as a result of continued utilization of these products for cracking.

Judging from reports to the effect that oil burner sales have shown material acceleration there is every reason to believe that the demand for furnace

oils will be unusually good this fall and winter. Jobbers in many sections of the country are already placing orders for future delivery and seem willing to pay current prices over a reasonable period of time.

The crude situation throughout the Mid-Continent continues rather unfavorable. It is believed, however, that the boost in gasoline prices, if maintained, will have a stimulating effect upon the crude market. The immediate outlook for the crude price structure is largely dependent upon the effect of continued curtailment of purchases by the major pipe line companies. With many of these buyers determined to reduce excess storage the outlook appears decidedly unfavorable. If producers do not accept curtailed pipe line runs as a warning to hold back production, and if many endeavor to move more oil than is currently required they will be forced to do so at materially lower prices.

It would appear now that the best course to pursue is to maintain present market prices by keeping production within the limits prescribed by daily takings of the purchasers. The threat of lower crude prices continues to hang over the market and the only way in which it can be prevented is for all concerned to adhere strictly to a policy of curtailment.

Takings From North Texas Wells Cut to 12 Barrels Each

Wichita Falls, Texas.—Crude runs throughout North Texas have been materially reduced and it is unofficially stated that Prairie Oil & Gas Company will limit its takings from producers to 12 barrels per well. This alleged ruling, it is said, will apply to all areas from which this company is now taking oil.

Prairie Oil & Gas Company and Pure Pipe Line Company are understood to have made joint nominations for runs in eight counties of North Central Texas, beginning with September 15, whereby only 5700 barrels daily will be taken, against previous takings of considerably over 10,000 barrels a day. The reduction will obviously enforce a restriction in production throughout this area to within about six barrels per well, which was ordered as the minimum output per well that should not be prorated. What a reduction in runs to a net figure of 12 barrels per well will mean in other sections is not difficult to imagine.

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 3rd Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending Sept. 13, 1930	Excess
Arkansas	62,431	62,431	53,550	—8,881
California	664,149	594,000	607,000	13,000
Kansas	120,222	105,554	118,550	12,996
Louisiana	60,116	58,749	64,100	5,351
Oklahoma	669,115	550,000	549,100	—900
Texas	839,361	775,000*	789,650	14,650
Balance of U. S.	230,000	230,000	228,850	—1,150
Total	2,645,394	2,368,607	2,410,800	42,193

*Limit set by R. R. Commission beginning August 27.

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Total Month August		Total Month July	Week Ended September 6	Week Ended August 30
AT ATLANTIC COAST PORTS—					
Baltimore	1,210,000		1,305,000	231,000	359,000
Boston	139,000		296,000	66,000	.....
New York	4,514,000		4,804,000	1,019,000	844,000
Philadelphia	1,034,000		1,176,000	412,000	196,000
Others	778,000		1,117,000	150,000	271,000
Total	7,675,000		8,698,000	1,878,000	1,670,000
Daily Average	247,581		280,580	268,286	238,571
AT GULF COAST PORTS—					
Galveston District	261,000	"a"	191,000	65,000	.....
New Orleans & Baton Rouge	289,000	"a"	334,000	30,000	98,000
Port Arthur & Sabine District	265,000		65,000	.....	95,000
Tampa	93,000		74,000	39,000	15,000
Total	908,000		664,000	134,000	208,000
Daily Average	29,290		21,419	19,143	29,714
AT ALL UNITED STATES PORTS—					
Total	8,583,000		9,362,000	2,012,000	1,878,000
Daily Average	276,871		301,999	287,429	268,285
Distribution of Total Imports is as Follows:					
Crude	5,160,000	"a"	5,903,000	1,481,000	1,056,000
Gasoline	1,663,000		1,459,000	243,000	560,000
Gas Oil	17,000		97,000	.....	.....
Fuel Oil	1,743,000		1,903,000	288,000	262,000
Total	8,583,000		9,362,000	2,012,000	1,878,000

"a" Revised.

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Total Month August	Total Month July	Week Ended September 6	Week Ended August 30
AT ATLANTIC COAST PORTS—				
Baltimore	230,000	538,000	.....	79,000
Boston	271,000	241,000	55,000	.....
New York	1,208,000	1,346,000	288,000	320,000
Philadelphia	658,000	739,000	308,000	113,000
Others	163,000	200,000	50,000	.....
Total	2,530,000	3,064,000	701,000	512,000
Daily Average	81,613	98,839	100,143	73,143
AT GULF COAST PORTS—				
Total	3,000	144,000	.....	.....
Daily Average	97	4,645	.....	.....
AT ATLANTIC & GULF COAST PORTS—				
Total	2,533,000	3,208,000	701,000	512,000
Daily Average	81,710	103,484	100,143	73,143
Distribution of Total California Oil Receipts is as Follows:				
Gasoline	2,114,000	3,075,000	602,000	512,000
Kerosene	.....	33,000	.....	.....
Gas Oil	339,000	.....	.....	.....
Fuel Oil	80,000	92,000	99,000	.....
Lubricants	.....	8,000	.....	.....
Total	2,533,000	3,208,000	701,000	512,000

Summarized Review of Field Results

	Completions		Oil Wells		Gas Wells		Failures		Initial Prod.	
	This week.	Last week.	This week.	Last week.	This week.	Last week.	This week.	Last week.	This week.	Last week.
Arkansas	7	6	..	4	..	..	7	2	...	132
California	18	10	15	9	..	..	3	1	33,215	4,475
Illinois	4	4	3	3	..	..	1	1	87	33
Indiana	9	1	4	1	1	..	4	..	89	5
Kansas	23	32	13	9	1	14	9	9	6,251	3,040
Kentucky	16	19	14	8	..	4	2	7	299	428
Louisiana	8	9	2	1	2	4	4	4	2,300	300
Michigan	6	10	2	6	2	..	2	4	470	935
Mississippi	2	1	..	..	2	..	..	1	...	...
New Mexico	12	1	12	1	..	..	..	..	77,221	1,775
New York	..	..	..	..	..	..	..	..	...	...
Ohio	21	35	4	12	12	11	5	12	91	77
Oklahoma	70	60	51	38	6	8	13	14	180,031	130,608
Pennsylvania	3	7	1	3	2	3	..	1	2	62
Tennessee	3	..	..	..	3	..	..	..	...	...
Texas	101	105	53	60	15	8	33	37	12,500	38,604
West Virginia	12	17	4	6	6	8	2	3	19	25
Total	315	317	178	161	52	60	85	96	312,575	180,499
Increase this week	..	..	17	..	..	..	..	..	132,076	...
Decrease this week	2	..	..	..	8	..	11	..	...	...

Weekly Comparisons of Permits Granted for New Wells

States—	Week Ending September 13	Previous week	This week 1929	Total this month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	9	1	4	10	7	76	116	159
California	20	18	..	38	17	610	921	1,231
Louisiana	10	16	25	26	38	741	613	903
Kansas	12	18	23	30	47	750	805	1,079
Oklahoma	40	31	66	71	133	2,267	2,461	3,578
Texas	87	146	176	233	313	5,657	6,257	8,697
Total	178	230	294	408	555	10,101	11,173	15,647

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING SEPTEMBER 6, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting		Crude Runs to Stills			Gasoline Stocks	Gas & Fuel Oil Stocks
		Total	Per Cent	Total	Daily Average	Per Cent Operated		
East Texas	608,700	608,700	100.0	3,381,000	483,000	79.4	5,906,000	11,060,000
Appalachian	128,100	117,600	91.8	500,000	71,400	60.7	1,188,000	1,065,000
Indiana, Illinois, Kentucky	382,500	381,000	99.6	1,935,000	276,400	72.5	5,881,000	4,409,000
Oklahoma, Kansas, Missouri	462,200	412,700	89.3	1,745,000	249,300	60.4	2,691,000	4,806,000
Texas	788,000	712,700	90.4	3,633,000	519,000	72.8	6,025,000	10,199,000
Louisiana-Arkansas	270,600	262,000	96.8	1,130,000	161,400	61.6	1,191,000	2,036,000
Rocky Mountain	148,900	139,300	93.6	351,000	50,200	36.0	1,969,000	1,183,000
California	897,400	891,400	99.3	3,862,000	551,700	61.9	13,722,000	105,572,000
Total week September 6	3,686,400	3,525,400	95.6	16,537,000	2,362,400	67.0	38,573,000	140,330,000
Total week August 30	3,686,400	3,525,400	95.6	17,074,000	2,439,100	69.2	38,815,000	139,662,000
The Total U. S. Figures for Last Year, Shown Immediately Below, are not Comparable with This Week's Totals because of Difference in Percentage Capacity Reporting								
Total September 7, 1929	3,362,700	3,164,300	94.1	18,603,000	2,657,600	84.0	31,878,000	*141,752,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included above in the Totals of Their Respective Districts.								
Texas Gulf Coast	526,500	526,500	100.0	2,764,000	394,900	75.0	4,759,000	7,319,000
Louisiana Gulf Coast	147,500	147,500	100.0	836,000	119,400	80.9	892,000	1,314,000

*Final Revised.

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1929	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
August	728,100	127,950	750,750	153,100	36,300	66,900	126,600	77,900	873,300	2,940,900	91,167,250
September	714,050	128,450	741,200	156,600	37,050	65,300	137,250	78,600	874,850	2,933,350	88,000,650
October	673,600	113,400	714,550	167,050	39,700	64,550	137,400	77,950	876,600	2,864,800	88,809,500
November	640,300	110,050	702,350	171,350	36,750	63,700	135,400	76,550	706,500	2,642,800	79,285,050
December	650,000	111,600	687,850	161,350	38,700	61,850	140,650	76,150	698,200	2,626,350	81,417,000
1930											
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,674,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
Sept. 6	565,000	113,550	625,150	204,200	40,450	53,500	122,850	106,050	606,300	2,437,050	17,059,350
Sept. 13	549,100	118,550	610,450	203,450	39,850	53,550	122,500	106,350	607,000	2,410,800	16,875,600
Increase	.....	5,000	.....	.....	.....	50	.....	300	700	.....	.....
Decrease	15,900	.....	14,700	750	600	.....	350	.....	.....	26,250	183,750

TEXAS
(Outside Gulf Coast)
PANHANDLE DISTRICT

	Sept. 13	Sept. 6
Carson County	7,500	8,350
Gray County	58,700	67,100
Hutchinson County	17,800	20,800
Wheeler County	650	700
Others	400	500
Total	85,050	97,450

NORTH TEXAS

Archer County	14,450	15,150
Burkburnett	7,900	7,700
Electra	10 600	10,550
Iowa Park-KMA	5,000	5,300
Montague and Cooke Counties	9,450	9,950
Wilbarger	18,350	20,800
Others	1,700	1,750
Total	67,450	71,200

WEST CENTRAL TEXAS

Brown County	5,700	5,900
Callahan County	3,150	3 100
Coleman County	2,800	2,850
Eastland-Desdemona	5,450	5,350
Jack County	2,950	2,500
Palo Pinto County	500	500
Shackelford County	6,850	6,800
Stephens County	5,300	5,550
Throckmorton County	700	750
Young County	17,150	16,800
Others	1,400	1,900
Total	51,950	52,000

WEST TEXAS

Crane-Upton Counties	35,200	39,150
Crockett County	2,200	2,200
Ector	7,500	6,100
Howard County	22,250	22,700
Jones County	1,350	1,300
Mitchell-Scurry Counties	2,200	2,200
Pecos County	3,400	3,250
Reagan County	22,250	22,400
Winkler County	65,600	68,200
Yates	101,700	103,800
Others	4,500	4,650
Total	268,150	275,950

EAST CENTRAL TEXAS

Boggy Creek	7,700	2,900
Corsicana-Powell	5,750	5,600
Currie	450	500
Mexia	4,500	4,600
Nigger Creek	150	150
Richland	200	200
Van Zandt	27,500	25,400
Wortham	750	800
Total	42,000	40,150

SOUTHWEST TEXAS

Chapman	10,950	3,650
Dale	300	300
Darst Creek	42,300	42,300
Laredo District	13,800	13 600
Luling	9,000	9,000
Lytton Springs	900	850
Salt Flat	16,500	16,500
Somerset	1,600	1,600
Others	500	600
Total	95,850	88,400
T'tl Tex (outside Gulf Coast)	610,450	625,150

TEXAS GULF COAST

Barbers Hill	17,800	18,900
Batson	1,150	1,150
Big Creek	3,500	3,500
Blue Ridge	2,100	2,000
Boling	1,000	1,000
Damon Mound	650	700
Esperson	3,050	2,750
Fannett	700	700
Goose Creek	4,500	4,600
Hankamar	1,700	1,900
Hull	9,000	8 950
Humble	21,300	21,000
North Dayton	1,100	900
Orange	2,300	2,200
Orchard	2,300	2,300
Pettus	8,300	7,700
Pierce Junction	11,950	12,850
Port Neches	1,450	1,450
Raccoon Bend	11,850	12,300
Refugio	29,500	28,150
Saratoga	1,100	1,100
Somerville	1,900	2,150
Sour Lake	2,200	2,250
South Liberty	3,450	3,500
Spindle Top	16,000	16,900
Sugar Land	12,600	11,900
West Columbia	4,200	4,300
Others	2,550	2,500
Total	179,200	179,600
Texas Total	789,650	804,750

OKLAHOMA

	Sept. 13	Sept. 6
Allen	15,700	15,700
Asher	1,300	1,300
Blackwell	2,950	2,950
Bowlegs	13,750	14,850
Braman	3,250	3,300
Bristow Slick	15,150	15,200
Burbank	15,500	15,500
Carr City	6,150	8,400
Cromwell	7,450	7,450
Cushing	13,350	13,350
Davenport	1,200	1,200
Duncan District	9,400	9,450
Earlsboro	22,950	19,650
East Earlsboro	17,950	14,800
East Little River	11,300	14,150
East Seminole	2,300	2,250
Fox	1,150	1,150
Garber	4,550	4,600
Graham	3,250	3,250
Healdton	11,850	11,850
Hewitt	7,050	7,050
Hubbard	1,450	1,450
Konowa	15,700	21,300
Little River	24,950	22,650
Logan County	4,600	4,600
Maud	3,150	2,500
Mission	7,350	6,400
North Okmulgee	10,250	10,250
Oklahoma City	92,650	105,350
Osage (outside Burbank)	25,300	25,350
Papoose	2,350	2,550
Pearson	700	700
St. Louis	22,900	23,650
Sasakwa	5,400	4,050
Scholem Alechem	14,100	14,000
Searight	7,500	7,550
Seminole	14,350	14,050
South Earlsboro	10,400	10,850
South Okmulgee	6,950	7,000
Thomas	700	700
Tonkawa	6,350	6,400
West Asher	7,250	9,250
Wewoka	3,700	3,700
Yale Jennings	7,750	7,750
Others	65,600	65,600
Total	549,100	563,000

CALIFORNIA

Dominguez	10,000	10,000
Elwood-Goleta	40,000	40,000
Huntington Beach	28,000	27,800
Inglewood	17,500	17,500
Kettleman Hills	15,500	16,000
Long Beach	102,000	101,000
Midway-Sunset	64,000	64,000
Playa Dey Rey	20,000	19,000
Santa Fe Springs	105,500	106,000
Seal Beach	18,000	18,500
Ventura Avenue	47,000	47,000
Others	140,000	139,500
Total	607,000	606,300

KANSAS

Augusta-Fox Bush	2,650	2,650
Churchill	3,550	3,600
Eldorado-Towanda	13,750	13,800
Florence-Covert	750	750
Greenwood County	18,900	19,000
Oxford	2,550	2,550
Peabody-Ebling	2,450	2,500
Rainbow Bend	1,050	1,050
Russell	3,290	3,300
Sedgwick	21,450	20,150
Voshell	12,250	8,200
Others	36,600	36,000
Total	118,550	113,550

NORTH LOUISIANA

	Sept. 13	Sept. 6
Caddo Heavy	2,600	2,550
Caddo Light	9,100	9,350
Carterville	2,650	2,700
Cotton Valley	1,850	1,950
DeSoto-Red River	3,100	3,050
Haynesville	4,950	4,750
Holly	1,000	1,100
Homer	3,450	3,300
Urania	5,300	5,250
Zwolle	4,150	4,300
Others	1,700	1,950
Total North Louisiana	39,850	40,450

LOUISIANA GULF COAST

Bayou Boullion	200	100
East Hackberry	2,400	2,400
Edgerly	400	1,050
Evangeline	2,000	400
Hackberry	1,050	2,650
Lake Barre	1,100	1,100
Lockport	2,700	2,700
Port Barre	3,100	3,300
Sorrento	100	100
Sulphur Dome	3,050	3,100
Sweetlake	1,200	1,150
Vinton	4,400	4,350
White Castle	1,150	1,200
Others	1,400	1,400
Total Louisiana Gulf Coast	24,250	24,600
Louisiana Total	64,100	65,050

ARKANSAS

Champagnolle	3,750	3,750
El Dorado	4,050	4,050
Lisbon	900	900
Nevada	1,050	1,000
Smackover Heavy	36,700	36,750
Smackover Light	5,050	5,050
Stephens	900	900
Others	1,150	1,100
Total	53,550	53,500

MOUNTAIN STATES
WYOMING

Big Muddy	2,000	2,000
Elk Basin	750	700
Grass Creek	2,000	2,050
La Barge	1,900	1,900
Lance Creek	100	100
Lost Soldier	4,150	4,100
Oregon Basin	3,000	2,500
Rock River	2,200	2,200
Salt Creek	24,000	24,850
Others	5,200	5,150
Total	45,300	45,550

MONTANA

Cat Creek	1,150	1,150
Pondera	2,000	2,050
Sunburst	5,800	5,850
Others	50	50
Total	9,000	9,100

COLORADO

Florence	400	500
Fort Collins	1,300	1,250
Moffats (Craig)	1,150	1,150
Others	1,600	1,600
Total	4,450	4,500

NEW MEXICO

Artesia	700	700
Bal. Lea and Eddy Counties	45,000	44,200
Hogback	400	400
Rattlesnake	1,300	1,300
Table Mesa	100	100
Others	100	200
Total	47,600	46,900
Total Mountain States	106,350	106,050

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)	113,000	113,500
Michigan	9,500	9,350
Total Eastern States	122,500	122,850

PRODUCTION SUMMARY

East of Rockies	.....	1,724,700
Total U. S.	2,410,800	2,437,050

Crude Oil Price Quotations

(Revised to September 16, 1930)

CRUDE PRICE CHANGES

Effective 7 a.m., September 15, Standard Oil Company of California announced a reduction of from 2 to 12 cents per barrel in the posted of California. (See new price schedule below.)

EASTERN STATES

(Effective August 22, 1930)

*Bradford Grade	$2.40
Penn Grade Oil in National Transit Lines (Pennsylvania)	2.35
Penn Grade Oil in Southwest Pennsylvania Lines (Penna.)	2.30
Penn Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.20
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	1.80
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.55
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Lines	1.30
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines	1.50
Somerset Oil in Cumberland Pipe Line Lines (Kentucky)	1.30
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Effective Jan. 29, 1929)	.60
Wayne Dist. Oil in Cumberland Pipe Lines	1.24

*Posted by Tidewater Pipe Company.

CENTRAL STATES

(Effective June 26, 1930)
Posted by Ohio Oil Company

Illinois	$1.65
Indiana	1.32
Lima	1.55
Plymouth	1.23
Princeton	1.65
Wooster	1.65

WESTERN KENTUCKY

All grades	1.55

OKLAHOMA-KANSAS

(Effective April 10, 1930)

Below 25 gravity	$ .70
25 to 25.9 gravity	.70
26 to 26.9 gravity	.76
27 to 27.9 gravity	.82
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.185
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

PANHANDLE

(Effective April 10, 1930)

GRAY COUNTY

Below 29 gravity	.755
29 to 29.9 gravity	.805
30 to 30.9 gravity	.855
31 to 31.9 gravity	.905
32 to 32.9 gravity	.955
33 to 33.9 gravity	1.005
34 to 34.9 gravity	1.055
35 to 35.9 gravity	1.09
36 to 36.9 gravity	1.125
37 to 37.9 gravity	1.16
38 to 38.9 gravity	1.195
39 to 39.9 gravity	1.23
40 to 40.9 gravity	1.265
41 to 41.9 gravity	1.30
42 to 42.9 gravity	1.335
43 to 43.9 gravity	1.37
44 and above	1.405

CARSON-HUTCHINSON COUNTIES

Below 32 gravity	$ .775
32 to 32.9 gravity	.825
33 to 33.9 gravity	.875
34 to 34.9 gravity	.925
35 to 35.9 gravity	.965
36 to 36.9 gravity	.995
37 to 37.9 gravity	1.03
38 to 38.9 gravity	1.065
39 to 39.9 gravity	1.10
40 to 40.9 gravity	1.135
41 to 41.9 gravity	1.17
42 to 42.9 gravity	1.205
43 to 43.9 gravity	1.24
44 and above	1.275

WHEELER COUNTY

Below 30 gravity	$ .755
30 to 30.9 gravity	.805
31 to 31.9 gravity	.855
32 to 32.9 gravity	.905
33 to 33.9 gravity	.955
34 to 34.9 gravity	1.005
35 to 35.9 gravity	1.04
36 to 36.9 gravity	1.075
37 to 37.9 gravity	1.11
38 to 38.9 gravity	1.145
39 to 39.9 gravity	1.18
40 to 40.9 gravity	1.215
41 to 41.9 gravity	1.25
42 to 42.9 gravity	1.285
43 to 43.9 gravity	1.32
44 and above	1.355

WEST TEXAS

(Effective April 10, 1930)

Crane-Upton, Crockett, Ector, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.77
29 to 29.9 gravity	.80
30 to 30.9 gravity	.83
31 to 31.9 gravity	.86
32 to 32.9 gravity	.89

CRUDE OIL PRICES AT THE WELL

San Francisco, Cali., September 12, 1930

Effective September 15, 1930, at 7:00 A. M. the following are the current prices offered by
STANDARD OIL COMPANY OF CALIFORNIA
For Crude Oil at the Well (Except Elwood Terrace as below).
Price Per Barrel in Fields Indicated

Gravity	Signal Hill	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Gravity
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70			$ .70	$ .70	$ .70	$ .70	$ .70		$ .55	$ .55	$ .55	$ .55	$ .55	$ .55	14-14.9
15-15.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	15-15.9
16-16.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	16-16.9
17-17.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	17-17.9
18-18.9	.76	.76	.76	.76	.76	.76			.76	.76	.76	.71	.76		.55	.62	.62	.62	.62	.62	18-18.9
19-19.9	.82	.82	.82	.82	.82	.82			.82	.82	.82	.77	.82		.55	.70	.70	.70	.70	.70	19-19.9
20-20.9	.88	.88	.88	.88	.88	.88			.88	.88	.87	.83	.87			.78	.78	.78	.78	.78	20-20.9
21-21.9	.94	.94	.94	.94	.94	.94			.94	.94	.93	.90	.93	$ .92		.86	.86	.86	.86	.86	21-21.9
22-22.9	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	.98	.97	.98	.95		.94	.94	.94	.94	.94	22-22.9
23-23.9	1.07	1.07	1.07	1.07	1.07	1.07			1.07	1.07		1.05	1.04	1.01		1.02	1.02	1.02	1.02	1.02	23-23.9
24-24.9	1.12	1.12	1.12	1.12	1.12	1.12	$1.12		1.12	1.12		1.08	1.08	1.05		1.06	1.06	1.06	1.04	1.04	24-24.9
25-25.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17		1.17	1.17		1.11	1.12	1.09		1.10	1.10	1.10	1.06	1.06	25-25.9
26-26.9	1.22	1.22	1.22	1.22	1.22	1.22	1.22		1.22	1.22		1.15	1.16	1.13		1.14	1.14	1.14	1.08	1.08	26-26.9
27-27.9	1.26	1.26	1.26	1.26	1.26	1.26	1.27		1.26	1.26		1.19	1.21	1.18		1.18	1.18	1.18	1.11	1.10	27-27.9
28-28.9	1.30	1.30	1.30	1.30	1.30	1.30	1.32		1.30	1.30		1.23	1.25	1.23		1.23	1.23	1.23	1.15		28-28.9
29-29.9	1.34	1.34	1.34	1.34		1.34	1.37			1.34		1.26	1.29	1.28		1.29	1.29	1.29	1.19		29-29.9
30-30.9	1.38	1.38	1.38	1.38		1.38	1.42			1.38		1.29	1.33	1.33		1.35	1.35	1.35	1.23		30-30.9
31-31.9	1.43	1.43	1.43	1.43		1.43	1.43	F. O. B. Ship						1.38		1.41	1.41	1.41	1.27		31-31.9
32-32.9	1.48	1.48	1.48	1.48			1.52							1.43		1.47	1.47	1.47	1.31		32-32.9
33-33.9							1.57							1.48		1.53	1.53	1.53	1.35		33-33.9
34-34.9							1.62	$1.32						1.53				1.59	1.39		34-34.9
35-35.9							1.66	1.39						1.58				1.65	1.43		35-35.9
36-36.9							1.72	1.46						1.63							36-36.9
37-37.9							1.78	1.53						1.68							37-37.9
38-38.9							1.84	1.60						1.73							38-38.9
39-39.9							1.90	1.66						1.78							39-39.9
40-40.9							1.96	1.72													40-40.9
41-41.9							2.02	1.78													41-41.9
42-42.9							2.08	1.84													42-42.9

KETTLEMAN HILLS

55° Gravity and above $1.65 Per Barrel

(See page 72)

MELLOWED A HUNDRED MILLION YEARS

Long, long ago in PENNSYLVANIA

The finest lubricating oil certainly deserves the strongest selling idea to put it across — and that's just the idea that Sinclair is putting behind Sinclair Pennsylvania Mobiline Motor Oil!

Read the most sensationally interesting advertisements ever developed for any motor oil —see the Saturday Evening Post (October 4), Collier's Weekly (October 4), Literary Digest (September 20), Liberty (September 18), and Fortune (October). Also the daily newspapers and rotogravure sections of Sunday newspapers throughout the country.

And Radio, Too — Tune in on the new Sinclair Radio Program beginning September 22. Hear the internationally famous comedians, Phil Baker, Shaw & Lee in the Sinclair laugh hit "GOING PLACES". Quarter hour broadcasts every Monday and Friday Evening.

Put in a supply of Mobiline—get ready to cash in on this stupendous campaign!

Sinclair Refining Company (Inc.), New York, Atlanta, Chicago, Houston, Kansas City. Sinclair Refining Company of Canada, Ltd., Toronto. Sinclair Refining Co. of California, Los Angeles.

SINCLAIR MOBILINE

Reg. U. S. Pat. Off. 1905

Pennsylvania MOTOR OIL

Made in the newest, largest single refinery using PENNSYLVANIA grade crude exclusively.

Guaranteed by SINCLAIR REFINING CO. INC. to be 100% pure PENNSYLVANIA GRADE OIL

35¢ *per quart*

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CRUDE OIL PRICE QUOTATIONS (*Continued from Page 70*)

33 to 33.9 gravity	.92
34 to 34.9 gravity	.95
35 to 35.9 gravity	.98
36 and above	1.01

Magnolia Petroleum Company posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

HOWARD AND GLASSCOCK COUNTY CRUDE

(Effective April 10, 1930)

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.76
29 to 29.9 gravity	.78
30 to 30.9 gravity	.80
31 to 31.9 gravity	.82
32 to 32.9 gravity	.84
33 to 33.9 gravity	.86
34 to 34.9 gravity	.88
35 to 35.9 gravity	.90
36 and above	.92

MARKHAM

The Texas Company

(Effective April 11, 1930)

All grades	$ .85

CORSICANA HEAVY

All grades	$ .80

SALT FLAT AND DARST CREEK

All grades	$1.15

SOUTH TEXAS

Mirando	$ .85
Luling	.85

NORTH AND CENTRAL TEXAS

(Effective April 10, 1930)

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona, Lytton Springs, and Van*

Below 25 gravity	$ .72
25 to 25.9 gravity	.77
26 to 26.9 gravity	.82
27 to 27.9 gravity	.87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

*Pure Oil Company, July 9, 1930.

GULF COAST

(Effective April 10, 1930)

Grade "A" all companies	$1.15

Grade "B"

Below 25 gravity	$1.00
25 to 25.9 gravity	1.03
26 to 26.9 gravity	1.06
27 to 27.9 gravity	1.09
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.15
30 to 30.9 gravity	1.18
31 to 31.9 gravity	1.21
32 to 32.9 gravity	1.24
33 to 33.9 gravity	1.27
34 to 34.9 gravity	1.30
35 to 35.9 gravity	1.33
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.39
38 to 38.9 gravity	1.42
39 to 39.9 gravity	1.44
40 to 40.9 gravity	1.46
41 to 41.9 gravity	1.48
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.52
44 and above	1.54

CLASSIFICATIONS OF GULF COAST CRUDE

The Texas Company: GRADE A—Beaume gravity not over 26.0 degrees at 60 degrees Fahrenheit; sulphur not over 0.5 per cent; in distilling 500 cc. of the crude that part of the distillate cut between 65 per cent off and 85 per cent off shall have a pour test of zero or lower. GRADE B—All Gulf Coast heavy crudes which do not meet tests for Grade "A" or for Gulf Coast light.

Humble Oil & Refining Company: GRADE A—All crude conforming to the following tests: viscosity not less than 100 seconds Saybolt at 100 degrees Fahrenheit; sulphur not over .4 per cent; Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold tests of distillates having a viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit. GRADE B—Embraces all Coastal crude which does not meet the tests for "A" grade crude.

Gulf Pipe Line Company: GRADE A—Beaume gravity not over 24 at 60 degrees Fahrenheit; viscosity not less than 100 seconds universal Saybolt at 100 degrees Fahrenheit; and sulphur not over 0.4 per cent. The yield of 250 viscosity reduced distillate at 100 degrees Fahrenheit not less than 30 per cent, and this 30 per cent not heavier than 20 Beaume, and its pour test not above zero Fahrenheit. The reduced distillate to be secured by reducing the crude with fire and steam until the bottoms have a flash of not less than 540 degrees Fahrenheit, and not more than 560 degrees Fahrenheit open cup, and the entire distillate obtained in this way reduced to a distillate of 250 viscosity. The 10 per cent cut in the original distillate having an average viscosity of 500 seconds at 100 degrees Fahrenheit to have a pour test not higher than 5 degrees Fahrenheit. GRADE B—Embraces crude which does not meet test for "A" grade.

Sun Pipe Line Company: GRADE A—Viscosity not less than 100 seconds at 100 degrees Fahrenheit Saybolt. Sulphur not over .4 per cent. Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold Test: of distillates having viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit A. S. T. M. Method. GRADE B—All Coastal crudes which do not meet specifications for Grade A crude.

REFUGIO

(Effective April 10, 1930)

Below 25 gravity (heavy)	.85

REFUGIO (Light)

Same as Gulf Coast 25 gravity and above.

PETTUS

(Effective August 21, 1930)

All grades	$1.15

BRENHAM

(Effective March 1, 1930)

All grades	.95

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

WYOMING-MONTANA

(Effective April 11, 1930)

Wyoming

Byron	$1.33
Ferris	1.60
Elk Basin	1.55
Grass Creek	1.55
Rock Creek	1.35
Lost Soldier	1.05
Lance Creek	1.63
Mule Creek	1.20
Notches	.65
Big Muddy	1.38
Osage	1.65
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.65
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

SALT CREEK

Midwest Refining Company

29 to 29.9 gravity	$ .90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA

(Effective Feb. 15, 1930)

Sunburst	$1.65
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

(Effective April 11, 1930)

Artesia	1.05
Hog Back	1.43
Maljamar	.95
Jal and Lea	*

(*) West Texas price scale used by The Texas Company and Humble Oil & Refining Co.

CANADA

(Effective June 28, 1930)

Oil Springs	1.95
Petrolia	2.02

LOUISIANA-ARKANSAS

(Effective April 11, 1930)

Homer, Haynesville, Caddo, El Dorado, DeSoto and Crichton and Cotton Valley*

Below 28 gravity	$ .87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 gravity and above	1.57

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS

Below 28 gravity	$ .76
28 to 28.9 gravity	.81
29 to 29.9 gravity	.86
30 to 30.9 gravity	.91
31 to 31.9 gravity	.96
32 gravity and above	1.01

SMACKOVER

Below 24 gravity	$ .90
24 and above	1.05

PERSONAL MENTION-MEN YOU KNOW

RICHARD H. MORRISON
...He goes to Dallas

Richard H. Morrison, for the past five years superintendent of the land and lease division of Standard Oil Company of California, has been made manager of The California Company's southern division, with headquarters at Dallas. Mr. Morrison succeeds Warner Clark, who was recently made assistant general manager of the Standard Oil Company of California in charge of all drilling and production operations of the company in the United States and abroad.

Mr. Morrison was graduated from the University of California Law School in 1921, and subsequently practiced law with Pillsbury, Madison & Sutro, general attorneys for Standard Oil Company of California, until 1923, when he went to work for the company in the land and lease department, later being made superintendent.

Dr. A. P. Bjerregaard, until recently chief chemist for Empire refineries division of Cities Service Company, and lately doing consulting work, has been appointed professor of chemistry and dean of the science department at Bryan Memorial University, Dayton, Tennessee.

George M. Maverick has been appointed director of research laboratories of Standard Oil Development Company (Standard Oil Company, New Jersey) at Bayway, New Jersey.

D. O. Bayless, superintendent of land department for The Texas Company in the Central West Texas and New Mexico division with headquarters at Fort Worth, has been transferred to Houston to occupy a similar position with the company in the Gulf Coast division. Tom P. Freeman, who has been head of the land department in the Rocky Mountain division of the Texas Production Company, a subsidiary, has been transferred from Denver to succeed Bayless at Fort Worth.

W. H. Whittier, geologist for Royal Dutch Shell for the past 10 years in South America, the Mid-Continent and California, has left the employ of Shell Oil Company and is now registered in the graduate school of the University of California at Berkeley where he is working for the degree of Ph. D. in geology.

Richard W. Millar has been elected a director of Rio Grande Oil Company. He is a vice-president of Bancamerica-Blair Corporation and his election to the new post indicates a connection between the financial house and the California oil company.

—Photo by Black & Stoller

JOHN M. LOVEJOY
With Mexican Seaboard

John M. Lovejoy was elected president of Mexican Seaboard Oil Company at a special meeting of the board of directors, held September 8. Harris Hammond, former president, was made chairman of the board of directors, and C. P. Watson was elected vice president. The company's offices have been moved from 20 Broadway to 39 Broadway.

E. C. Lawry, field superintendent for Shell Petroleum Corporation in the North Texas district with headquarters at Wichita Falls, has been transferred to Dallas district office to assume charge of field work being started by the company in the non-unitized section of the Van field.

E. B. Germany, member of the partnership firm of Cranfill & Germany, Inc., Dallas, departed early this week for a vacation in New Mexico and Arizona.

Guy Graham, for the past three years purchasing agent for Navarro Oil Company, Houston, was made secretary and treasurer, effective September 1, succeeding W. R. Moore, who resigned to go into business for himself. Mr. Graham, prior to joining Navarro Oil Company, was for eight years associated with Humble Oil & Refining Company.

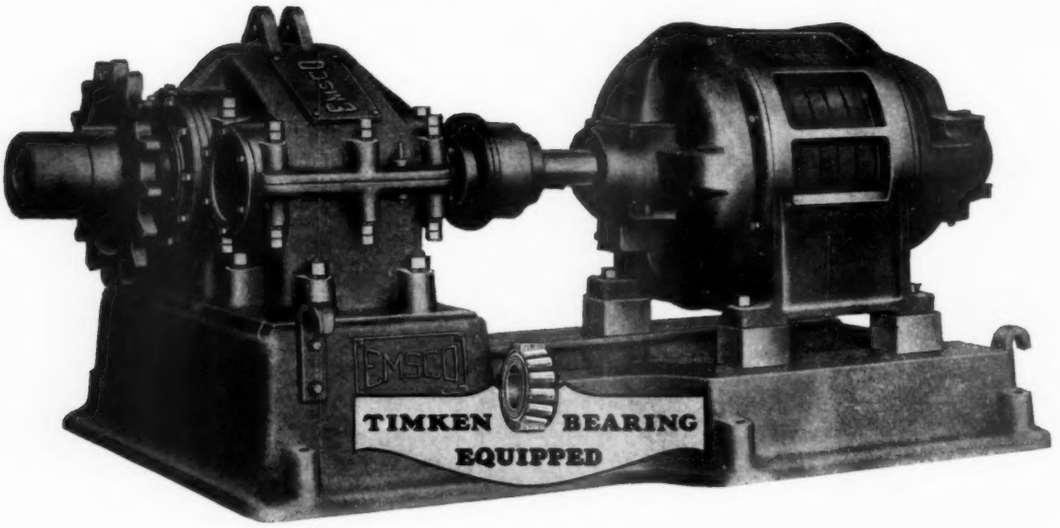
Hartsell Gray, general manager, Gray Specialty Company, Houston, is spending a vacation in Hartsell, Alabama.

A. E. Anderson, president, Standard Day-A-Nite Company, Houston, left September 14 for Oklahoma City and Tulsa, where he will look over field conditions and complete arrangements for displaying the company's line of Danco high pressure fittings and tools at the International Petroleum Exposition.

Jack Porter, technical adviser for British Controlled Oilfields, Ltd., Porto Spain, Trinidad, has returned to his headquarters after spending six weeks in the United States, spending a week visiting Bedford Sharp, president of Mission Sales Company, in Houston, and taking a vacation in the Middle West. Porter has spent the past eight or 10 years in Trinidad and South America.

The baseball game played Saturday afternoon for the championship of Possum Hollow in Old Man Jones' cow pasture, broke up in the seventh inning in an uproar when Si Spivens slid into what he thought was third base.

ROY WM. CARVER
Assistant superintendent of the land department Rio Grande Oil Company



Timken Ability Means Dependability in the "Emsco" Type "G" 200 H.P. Speed Reducer

Drilling loads and shocks are notoriously hard on the power units, and especially so on the speed reducers.

There is no middle ground in speed reducer service. They either have the ability to stand the gaff or they don't—and it's very largely a matter of bearings.

Thrust is the speed reducer's most dangerous enemy, and only speed reducers equipped with bearings that have thrust ability as well as radial capacity can combat it with the assurance of dependability demanded in oil field operation.

To put it more definitely and positively, they must be Timken Bearing Equipped, for it takes the exclusive combination of Timken tapered construction, Timken positively aligned rolls and Timken-made steel to meet these modern anti-friction requirements in full.

A check up will show that manufacturers of speed reducers are practically in unanimous agreement on this point, including The Emsco Derrick & Equipment Company, Los Angeles, Calif., builders of Emsco reduction units.

There are 4 Timken Bearings in the Emsco Type G 200 H.P. reducer—2 on the pinion shaft and 2 on the main shaft, permanently holding thrust at bay, keeping shafts in rigid alignment and protecting gear teeth. The Timken Roller Bearing Company, Canton, Ohio.

TIMKEN *Tapered Roller* **BEARINGS**

Chester Cassel, geologist for California Petroleum Corporation of Venezuela, subsidiary of The Texas Company, with headquarters at Maracaibo and Caracas, has concluded a vacation in California.

Morris M. Ferguson, prominent attorney, recently addressed the Petroleum Accountants' Society of Los Angeles on "The Effect of Imported Labor on American Standards of Living."

Ernest Marquardt, prominent geologist and formerly vice-president of New York Oil Company of Casper, Wyoming, is now living in San Diego, California.

GOODSON RIEGER

Oil and Gas Division of the Texas Railroad Commission takes his first deep sea fishing trip in the Gulf of Mexico.

H. H. Roberts, in charge of publicity for Standard Oil Company of California in the Los Angeles office, has returned from an extended vacation trip which included a large circle through Nevada, Utah and California.

J. E. Willoughby has been appointed production manager for Rio Grande Oil Company in Texas and New Mexico, succeeding H. L. Lockhart, who has resigned to devote his time to personal business.

Charles M. Higgins resigned as vice-president and director of Standard Oil Company of New York on September 8. Mr. Higgins has seen 58 years of uninterrupted service with Standard Oil Company enterprises.

Joe Morris of the firm of Allen and Morris is now active in the Laredo district and at Pettus, Texas, traveling between the two scenes of activity in his Waco plane. Quick trips for repairs or hurry up calls are in the day's run of work for Morris.

A few years ago Allen and Morris purchased a mountain ranch in Bandera County, Texas, where these two men now do their resting when times are slack in the oil fields, tending a big herd of goats.

David B. Reger has resigned his position as associate geologist of the West Virginia Geological Survey and has opened an office at 217 High Street, Morgantown, West Virginia, as a consulting geologist. He will practice in the geology of hydro-carbons and non-metallics, with special attention to reports and appraisals on coal, oil and gas properties.

Willis Storm, geologist of Dallas, and S. R. Cohagan of Fort Worth, recently visited the Jackson, Mississippi, gas field.

F. Julius Fohs, vice-president and director of Humphreys Corporation, arrived in Houston late last week on a business visit to the company's headquarters.

George W. Pryor, geologist for Louisiana Oil Refining Corporation, is now engaged in geological work around Jackson, Mississippi.

W. E. Scott, land man for Shell Petroleum Corporation, with headquarters at Baton Rouge, Louisiana, recently made an inspection tour of South Mississippi and the Jackson gas field.

Henry Cortez, Vacuum Oil Company, Houston, was the featured speaker on the weekly luncheon program of the Houston Geological Society September 16, his subject being, "Further Comment on Geophysics in South Louisiana."

C. E. Olsen, vice-president and general anager, Gearench Manufacturing Company, Houston, is making a business trip through the East, including St. Louis, Cleveland, Buffalo, New York City and cities of the lower New England states and returning through Chicago and other cities of the Middle West. He is negotiating for the distribution of Gearench products now being placed on the market and also contacting sources of supply of raw materials and machine tools.

James M. Murray, Murray Tool & Supply Company, Cleveland, Oklahoma, left; Mrs. Murray, Lee Hausinger (pilot), and Stanley S. Parker, Doheny Stone Drill Company, Oklahoma City, shown with the new plane of Murray Tool & Supply Company. They flew recently from Tulsa to Los Angeles, where Murray conducted negotiations for the distribution of Hydril products in Oklahoma, Kansas and New Mexico. Stops on this flight were made at Oklahoma City, Hobbs, New Mexico, El Paso, Tucson and Yuma, Arizona.

Oklahoma Committee Surveys Crude Demand for Last Quarter

TULSA.—In the absence of an anticipated decision in the Julian case before the Oklahoma Supreme Court, the statewide proration committee, altered its program here September 16 and considered only a statement from a committee of the Oklahoma City field and made a preliminary survey concerning market demand for Oklahoma crude oil during October, November and December. The meeting was called for the purpose of deciding upon the proration program for the final quarter of the year.

C. C. Herndon, chairman of the committee, stated that the meeting had been called last week, when it was thought that a decision in the Julian case would be given at least by today. He reviewed happenings, which may have delayed the decision and gave it as his opinion that no program should be offered until the court had ruled on the constitutionality of the statute, under which proration orders are issued by the Oklahoma Corporation Commission.

J. N. Stokes of T. B. Slick, Inc., stated the posiiton of the committee, which represented the Oklahoma City field. He said it was the position of this ocmmittee that proration should be continued but added that this committee also felt that some adjustments should be made to give the Oklahoma City field an increased outlet. He admitted that he did not know what adjustments should be made to give this pool additional outlet and said that he did not think other members of the committee had any common ground upon which to suggest a reduction in other fields to the benefit of Oklahoma City.

Other Positions Stated

Other members of this special committee spoke only briefly and to the effect that Judge Stokes had stated their position. Two members of this special Oklahoma City committee are members of the proration committee of the Mid-Continent Oil & Gas Association and will be with that body when it does formulate its proration program for the final quarter of the year.

The expressions given at the meeting today indicated that the Oklahoma City producers are of the opinion that the output of some of the other prorated fields of Oklahoma should be further reduced in order that more than five per cent of the potential of Oklahoma City may be marketed. When the committee went into the question of the demand for Oklahoma oil for the final quarter of the year, further complications were indicated, as some of the purchasers stated that they would need less oil for these three months than for the past three months. Only a few of the purchasers of Oklahoma oil were present but these were the ones of major scale. Before the exact demand can be arranged for the final quarter, all purchasers must be canvassed.

But the figures assembled in the meeting September 16 revealed a reduction of 16,000 barrels daily for the purchasers, who did give estimates of their requirements. Should this scale of reduction apply for the whole list of purchasers, the demand for Oklahoma oil in the final quarter of the year will be close to 525,000 barrels daily, against a present demand of 550,000 barrels daily.

Several representatives of purchasing concerns said they could not give figures as to requirements for November and December, since it was impossible to anticipate demand. Some of these made it plain that they would buy no oil for storage during the final quarter, which left the matter of their purchases controlled solely by the demand of refinery customers.

The gravity of the condition facing Oklahoma producers was stressed at several points. Chairman Herndon said his one ray of hope was his faith in the ability and fairness of producers to work out a program which would encompass all factors and leave producers satisfied with results.

Reeser Talks

E. B. Reeser, president of the American Petroleum Institute, spoke briefly and reviewed conditions in California, where he has been for a period. He said he would be pessimistic as regards the immediate future of petroleum, except for his belief that oil producers would continue to follow a program, which had been prepared after a consideration of all factors bearing on crude oil production.

After the meeting the proration committee went into executive session. Mr. Reeser, as well as William N. Davis, president of the Mid-Continent Oil & Gas Association, were asked to sit with the committee in this session. The session will result in a further canvas of the market demand, as well as further statements from committee members, who also are members of the special committee of Oklahoma City producers. No program of proration however, will be offered until there has been final action in the Julian case before the Oklahoma Supreme Court. After that, the findings of the committee will be brought before an open meeting of producers. At that time oil companies which do not have executives on the proration committee, will have opportunity to express views on the proration program. Wirt Franklin, chairman of the Oklahoma City committee and also a member of the general proration committee, said that he expected to bring the relation of the Oklahoma City field to all other Oklahoma fields before this general meeting.

SALE OF LORECO TO CITIES SERVICE EXPECTED

Shreveport, Sept. 16.—Consummation of the sale of Louisiana Oil Refining Corporation to Cities Service is expected today in New York, although the deal had not been officially announced according to B. P. Crittenden, vice-president of Louisiana Oil Refining Corporation.

If consummated the sale will involve a consideration approximating $25,000,000.

Cities Service is also negotiating for the purchase of Lion Oil Refining Company, one of the largest independent companies in this territory, the consideration to be in the neighborhood of $6,000,000.

Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Drilling at Oklahoma City Has Passed Maximum Stage

TULSA.—After a week of considerable excitement, Mid-Kansas Oil and Gas Company and Ramsey Petroleum Corporation's Messer 1, SW SW SW, Section 32-14n-3w, has failed to yield anything of commercial importance for that depth. Corrected measurement places the top of the sand at 6697 feet. At last report the total depth was 6769 feet and the well was flowing 441 barrels by agitation. Geologists are not in agreement as to the correlation on the producing sand. Some believe it to be Wilcox while others are of the opinion that it is in the upper Simpson and has yet to reach the Wilcox. If the former assumption is correct the well is now 72 feet into the Wilcox and is showing no water which indicates that it probably is not an edge well.

The rate at which wells are being completed in the south Oklahoma City pool and the fewness of new locations announced, is leading to the general opinion that a majority of the drilling in that field will be completed within the next three or four months. The record for the first 15 days of September indicates that the present 30-day period will eclipse the number of completions for August, when 98 wells were placed on production. The number of drilling wells, which has stood at better than 300 for several months, has now dropped below 200 and, unless some new structural condition is discovered, will continue to drop at a fast pace.

Continental Oil Company's Vincent Sudik 2, NE NW NE, Section 6-10n-2w, on the south end of the pool, is showing signs of making a small producer after having been almost relegated to the dry hole list. Early in August the well topped the Wilcox at 6715 feet, was drilled to 6744 feet, and, when bailed to bottom, failed to make a showing. Operators have been working on it since that time and on September 8 it made 320 barrels flowing by heads with about 2,000,000 cubic feet of gas.

All completions during the past week were in proven territory but several wells on the southwest edge of production are drilling below 6000 feet and should yield new information on the productive limit for that direction within the next 15 days.

Seminole District

Clark and Cowden's Rock Island 2, SE SW NW Section 8-9n-5e, which at the time of last week's report, had 1000 feet of oil in the hole and a show of water from a green shale below the base of the first Wilcox, encountered the second Wilcox from 4390 to 4393 feet with 2500 feet of water in the hole and no increase in oil. It will be plugged back to the first Wilcox at around 4350 feet.

Amerada Petroleum Corporation's Tiger 1, NW NE SW, Section 3-8n-5e, topped the Wilcox at 4124 feet and, when one foot in, swabbed 282 barrels. At last report it had been drilled to 4140 feet and swabbed 480 barrels in nine hours. Prairie Oil and Gas Company's Harjo 1, SE SE NE Section 3-8n-5e, had the top of the Viola limestone at 4035 feet and the Simpson at 4137 feet with 600 feet of oil in the hole at the latter depth. The two tests are about mid-way between the Mission and Maud pools in an area which is limited to the northwest by dry holes. In the next section eastward, Prairie Oil and Gas Company's Fixico 1, SW SE NW Section 2-8n-5e, set 8¼-inch casing at 4098 feet, eight feet below the top of the Viola limestone, and is running 6⅝-inch casing at 4110 feet.

Wanette Pool

Payne Drilling Company has announced location 1-A on the Bullock farm, twin to the discovery well. It will be drilled to the lower producing horizon but all upper sands will be carefully tested. In the event that anything of commercial value should be found at shallower depths, well Number 1, the discovery well, will be plugged back. It will be remembered that the first well was originally drilled to the Wilcox and plugged back to 3600 feet. The casing was ripped from 3505 to 3510 feet and the well has been producing 800 or 900 barrels in this condition. Subsequent development indicates that its production should be much larger and operators are drilling the twin well in hopes that the old well may be used to produce shallower sands and the new well to furnish a satisfactory completion in the lower zone.

Success of proration in the Greater Seminole area is evidenced by a greatly reduced daily production and the fact that only a few companies are running to storage while two major companies are drawing about 10,000 barrels daily from storage.

Tatums Extended

The Tatums pool, Carter County was extended a half-mile southeast when Gant and Garvin completed their Meeks 1, SW SW SW Section 19-1s-3w, during the past week. The well swabbed 130 barrels from a series of sands between 2123 and 2290 feet. Total depth is 2310 feet. The largest completion of the week was Magnolia Petroleum Company's E. R. Spigner 4, NE NW NW Section 24-1s-3w, which swabbed 1188 barrels during the initial 24-hour gauge. Production is coming from a series of sands logged between 2110 and 2362 feet. Carter Oil Company added a new producer to the northeast edge of the field when it completed Joe Franklin 1, NE NW NE Section 24-1s-3w, for an initial production of 910 barrels in 24 hours, swab-

bing and flowing. Production is coming from broken sands between 2063 and 2165 feet with bottom of the hole at 2243 feet.

Work is being resumed on a number of tests which have been shut down on account of water shortage and with continued rains the full drilling program should be resumed within a few days.

J. H. Hudson et al's Fulton 1, NW SE SW Section 28-4s-2w, Carter County, about three-quarters of a mile southwest of production in the Hewitt field, is drilling below 5900 feet.

Ross-Seward's Nettie Anderson 1, SE NE SE Section 32-4s-2e, Carter County, about a half-mile east of Ardmore, has been shut down to repair machinery. Operators are trying to drill by pipe lost in the hole at a depth of 2590 feet.

Magnolia Petroleum Company's I. E. Harmon 1, NW NW SW Section 28-1s-2w, approximately three miles southeast of the Tatums pool, is drilling below 2900 feet.

Await Decision in Oklahoma City Proration Row

OKLAHOMA CITY.—Two events last week brought further development in the controversy as to the authority of the Oklahoma Corporation Commission to enforce its proration orders but still left the question of the validity of the statute to be determined by later decision of the Supreme Court.

First came dissolution of the writ of prohibition by which Julian Oil & Royalty Company had been privileged to flow its well in the Oklahoma City field contrary to the proration regulations. In dissolving this writ the Supreme Court moved contrary to its decision of September 2, when J. Berry King, attorney general made a plea for the dissolution of the writ, pending a ruling on the constitutionality of the statute.

September 9, the constitutional question was argued before the court and W. L. Murphy, assistant attorney general, again asked for dissolution of the writ of prohibition. No action was taken then and it was assumed that the court would allow the writ to stand pending a decision on the constitutional question.

When the writ was vacated September 11, speculation took several turns. One opinion was that the court was leaning toward the contention of the state. Another was that the decision would be so long delayed that the court had decided to vacate the order to place all producers on a parity in the field.

Then September 12, Justice Robert Hefner of the Supreme Court disqualified himself for the Julian case. In disqualifying himself, Justice Hefner announced that he was an owner of royalty in the Oklahoma City field and also interested in oil production around Ardmore, his home.

Governor W. J. Holloway appointed Guy Green of Waurika, a former member of the state legislature, to sit in Justice Hefner's place in the Julian case.

This shift in the personnel of the court has been interpreted as meaning at least a slight delay in the decision, as it will take some extra time for Green to become familiar with the case through briefs.

Last week Champlin Refining Company of Enid filed an amicus curiae petition with the Supreme Court in the Julian case. While this act does not make Champlin Refining Company a party to the suit, it does place it in the role of contending that the pleadings of the Julian interests are correct.

Following dissolution of the writ of prohibition, the State Corporation Commission, through W. J. Armstrong, chief conservation officer, served notices on Julian Oil & Royalty Company, Champlin Refining Company and Marco Oil Company that wells, produced contrary to the proration orders would have to be brought within the percentages set up.

The companies immediately complied with the order, which again places the Oklahoma City field under proration for the first time since August 28, when Julian Oil & Royalty Company was given its writ of prohibition.

Discovery of New Pool in Cowley County Seems Likely

Wichita, Kansas.—Discovery of a new oil pool in Cowley County, Kansas, seems likely on the basis of reports from Roth and Faurot's well in SEc SW NE, Section 12-32s-4e, approximately 5½ miles east of the Biddle pool and 2½ miles northeast of the Winfield pool. At 2505 to 2520 feet the well encountered 5,000,000 cubic feet of gas and at 2571 to 2574 feet, a saturated oil sand which is producing about 50 barrels hourly. Production is thought to be coming from the Kansas City or Marmaton groups of lower Pennsylvanian age. Elsewhere in Kansas the two groups can be readily distinguished but in Cowley County their distinction is exceedingly difficult. The possible area of production seems to be small in extent as shown by the surrounding dry holes.

In spite of efforts to restrict drilling in Kansas, the state reported 12 new locations during the fiscal week, a gain of one over the previous week. Boucher Oil Company's Roy 1 SWc Section 16-21s-10w, Rice County, had a show of oil from 3380 to 3385 feet and at 3391 feet had 250 feet of oil in the hole. Approximately eight miles to the north, Solar Oil Company, Skelly Oil Company, Carter Oil Company, and Gypsy Oil Company's Brandenstein 1, CSW Section 10-19s-10w, had a five barrel show at 2930 feet and are drilling deeper. Mid-West Exploration Company's Richardson 36, SEc Section 36-22s-12w, Stafford County, is shut down for the construction of tankage with more than 3000 feet of oil standing in the hole. The sand was logged from 3541 to 3544 feet.

Transfer of Oil Well Supply Assets Awaits Approval

Pittsburgh.—Tranfer of the assets of Oil Well Supply Company to United States Steel Corporation on or before September 30, will be completed following approval by stockholders of Oil Well Supply Company at a special meeting.

If the transfer is approved, Oil Well Supply Company holders will receive 64,992 shares of Untied States Steel Corporation common stock and in addition, either $6,865,800 cash or common stock of the purchasing company in an amount equal to that sum. Certain assets of Oil Well Supply Company are withheld, including treasury stock and franchise to be a corporation. The name of the company has been changed to Pittsburgh United Corporation, and a subsequent meeting of stockholders is scheduled to choose a new directorate and officers.

Oil Well Supply Company began business in 1862 and ranks as one of the largest manufacturers of machinery and supplies for drilling and operating oil and gas wells. In addition this company manufactures boilers, engines, pumps, drilling and fishing tools, and is a distributor of tubular goods and sundries.

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Ector County Wildcat May Open New West Texas Pool

SAN ANGELO. — Ector, Crane and Loving Counties proved to be of greatest importance in the West Texas area during the past week. With coring being continued on Southern Crude Oil Purchasing Company's northern Ector County wildcat, production from which is estimated at slightly less than 300 barrels a day, interest in this area has been brought to a stage where immediate developments are expected to show a high degree of activity. Coring of oil sand in this well at a depth of 4240 feet has already proven the capabilities of this producer and while it is said that the test will be drilled deeper, it is quite possible that it will be tubed at its present depth. The fact that the well is flowing by heads through 8¼-inch casing, with tools in the hole, indicates that it could be tubed and made to produce between 400 and 500 barrels of oil a day.

As a result of impending developments in northern Ector County, the Southern Pipe Line Company is considering the building of a line that may have its terminus at Wickett. Judging from present leasing activity in the new area, it is probable that it marks the opening of a new pool there that may soon take its place among the major developments of West Texas.

Loving County was again placed in the limelight last week when the California Petroleum Corporation successfully completed its Reagan and McIlvain 2 in Section 84, Block 1. This well flowed 326 barrels in 12 hours, as a result of a shot of 150 quarts from a depth of 4185-4224 feet. Total depth of the hole is 4228 and the log shows that the Delaware lime was topped at 4185 feet and top of sand at 4218 feet. The surface elevation of this test is 2686 feet.

Another interesting development was that of Tidal Oil Company's University 3-C, in Crane County, which flowed 237 barrels of oil during the first 18 hours after first being shot with 90 quarts and then with 300 quarts. The depth of this well was placed at 3000-3092 feet.

***TWENTY-ONE** heads of oil have been made by Southern Crude Purchasing Company's Cowden A-1 in northern Ector County, 272 barrels being the yield obtained on Monday's test. It is expected now that this discovery well will be straight reamed and tubing run with packer to obtain a more accurate estimate of the well's capabilities. First pay was topped at 4130 feet and was cored to a depth of 4244 feet. Fuhrman Petroleum Company's well in southern Andrews County is now showing 26,000,000 cubic feet of gas at 4062 to 4068 feet and is awaiting casing to be run at 4155 feet, present total depth.*

Big Lake Oil Company's University 4 in Reagan County which developed trouble in the deepening process with drill pipe, is now being reamed to bottom at 8295 feet.

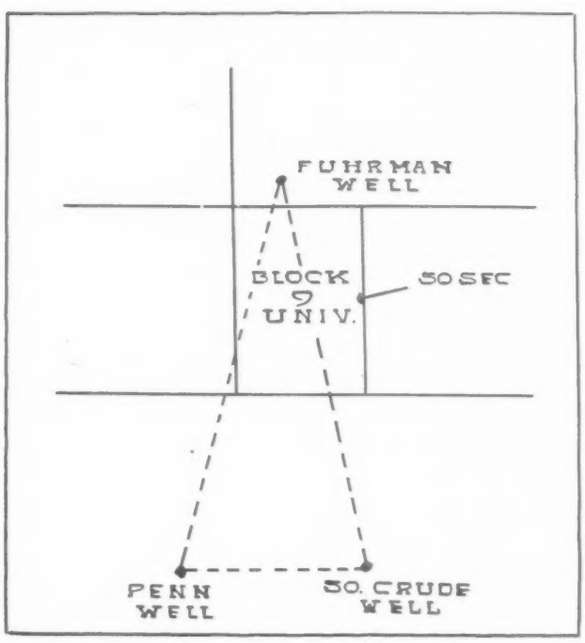


Diagram of University Block 9 in Andrews County, showing probable development trend that may follow the sale of tracts in this promising area. The University block involves 50 sections

Proration Endangered

Somewhat of a blow at the forces of curtailment was handed out during the past week when the Board of Lease of University Lands sent out a letter in which it stated that it would consider bids for the sale of Block 9, Uni-

versity lands in Andrews County. This block is south and east of the Fuhrman well and occupies an area that is regarded especially favorable at present. If disposal is made of this property in small sections to numerous willing purchasers, it is believed that it will be exceedingly difficult to exercise any degree of control over developments there. Some idea of what a sale of this nature would mean is presented graphically in the accompanying diagram. This shows a veritable triangle connecting the wells of Fuhrman Oil Company, Penn Oil Company and Southern Crude Oil Purchasing Company. It is readily seen that the disposal of this block of 50 sections would result in an unusual degree of competitive development. In the long run, it is not believed that the University will benefit to the extent that future, orderly disposal and development would indicate. In fact, some oil men are of the opinion that it would be better for all concerned if this block were disposed of at a public auction, as was formerly done with Indian lands in Osage County, Oklahoma.

Early reports from various fields of West Texas seem to indicate that new production of that area will show a sizeable decline for the week. Daily average production of this area has also shown a decline of more than 3000 barrels. In connection with present curtailment programs in effect in various pools of West Texas, it is interesting to learn that attempts to apply back-pressure on the deep wells of Reagan County has had an adverse effect upon production. Apparently, the application of back pressure caused an expansion of gas, resulting in frozen connections and in reality became a stimulant to production. Application of repressuring of about 250 wells operated by Big Lake Oil Company and Group Number 1 (Texon) Oil Corporation, was tried without much success and it was reported to the railroad commission by these companies that pinching in these wells presented an element of danger from water encroachment.

Drilling Declines

New drilling continues to show a marked decline with new locations becoming fewer each week. During the past week only six new locations were made and these were scattered over a rather wide area. Following are the locations reported:

Glasscock County—Lion Oil & Refining Company on R. C. Coffee "B" 2.

Ector County—Amerada Petroleum Corporation on University B, Location No. 4.

Pecos County—Lockhart & Company on No. 1 University. Cardinal Oil Company on J. H. Tippett (Sun), No. 2.

Winkler County—Empire Gas & Fuel Company on Linn Daugherty "C," Location No. 1. Prairie Oil & Gas Company on L. E. Johnson, Location No. 1.

Completions have also shown a marked slump during recent weeks, not only in the West Texas area but over the state generally.

Bartlesville Engineers Choose Officers

Bartlesville, Oklahoma. — Officials of the Bartlesville Engineers Club for the coming year will be A. D. Terrell, National Zinc Company, president; P. R. Chamberlain, Dewey Portland Cement Company, E. B. Bura, Empire Oil & Refining Company and James Porter, Indian Territory Illuminating Oil Company, vice-presidents; and L. T. Gibbs, Phillips Petroleum Company, secretary-treasurer.

These names were selected by the nominating committee last week and the balloting put in motion through the mails.

Complete 12,000-Barrel Well East of Van Unitized Area

Corsicana, Texas.—One particularly important development in the Van area last week was the completion of a 12,000-barrel well in the George Anderson strip, east of the unit development area. This well was completed late on Wednesday, September 10, and came in with an estimated production of 60 barrels of oil during the first 15 minutes. The well blew in with a pressure of 1200 pounds and blew oil 250 yards from the derrick. Many estimates place the potential of this well at upwards of 35,000 barrels daily, but an official report credits it with a maximum daily volume of about 12,000 barrels.

The development of this well has been watched with considerable interest since it is located on an 8½-acre tract several hundred yards east of the proven field and its successful completion establishes a new trend there that will undoubtedly result in considerable activity immediately. The well is the property of Forey Oil Corporation of Fort Worth, of which George S. Anderson and F. E. Fogleson are officers. As a result of this completion, another test has been started by the same interests a quarter of a mile west of the new well. Spudding on the new location has already begun.

Three tests in outpost sections of the Van pool are now being watched with greater interest. The Texas Company's Carter 2 has had pipe set at 2974 feet and is reported coring ahead. Humble Oil & Refining Company's Ruth Starr Blake 3, is at depth of 2792 feet awaiting cement to set. Broderick and Calvert Shirley 1 is preparing to drill ahead below 2764 feet, pipe having been set and cemented at 2752 feet.

Work on Phillips Gasoline Line Slowed Up

Amarillo, Texas.—Construction work on Phillips Pipe Line Company's 10-inch gasoline line from Borger through Wichita and Kansas City to St. Louis, has been delayed somewhat account of pipe deliveries being slow. More than 50 miles of this proposed 850-mile welded line have been completed; much faster progress is expected hereafter. More than 90 per cent of the right of way has been acquired in the four states that the line will traverse.

Phillips Pipe Line Company is a subsidiary of Phillips Petroleum Company. When completed the line will deliver finished gasoline to the latter company's wholesale stations along the route. All pipe line work is being performed by contractors. A. H. Riney, chief engineer for Phillips Petroleum Company, with headquarters at Bartlesville, is actively in charge of all work. Walter Ritterbusch is in charge of right of way work.

Phillips Pipe Line Company is starting construction work on about 30 miles of six-inch welded line to extend from the Borger refinery to a group of natural gasoline plants being operated by Phillips Petroleum Company in the Pampa-LeFors district, Gray County. This line will deliver natural gasoline to Borger, and will parallel a six-inch crude line built this year by Bartex Pipe Line Company, a subsidiary of Phillips Petroleum Company.

Schleicher County to Have Unitized Field Development

San Angelo, Texas.—Schleicher County may soon be classed as a unit-operated field if plans now being made by Eastland Oil Company and others, materialize. A test well to be drilled in the center of a 10-section block, six sections of which were sold and pooled with four sections held by a group of companies that have agreed to carry out development of this area on the unit plan. The companies involved are Empire Gas & Fuel Company, Shell Petroleum Corporation, Sun Oil Company, Atlantic Oil Producing Company, Phillips Petroleum Company, Independent Oil & Gas Company and Carl Cromwell. The last named party has been given a contract to drill this test well to a depth of 4500 feet unless production is obtained at a lesser depth, and is expected to spud by October 1. An eight-inch hole will be maintained to 4500 feet and at the election of the committee in charge of the operation, it may be drilled deeper if necessary.

Other unit plans have been tried in West Texas before, among which have been one in Loving County, two in Pecos County, and one in Kent County. It is believed that the experiences of operators in the latter areas will be used as a guide to the plan to be followed out in Schleicher County. The new location is on the ranch of Joe Tisdale, in the center of Section 29, block MGH & SA Ry. survey. This test will be watched with great interest, as it is believed indications point to prolific production there. Phillips Petroleum Company's Whitten No. 1 is located eight miles to the southwest of this location, the company having obtained a flow of oil there in August, 1929, from a depth of 4912-25 feet, which flowed for several days before casing was run.

Hobbs Field Potential Near 500,000 Barrel Mark

HOBBS, New Mexico.—Potential of the Hobbs area is rapidly approaching the 500,000 barrel mark. Last week's completions resulted in new production amounting to over 77,000 barrels from 12 producers, besides alarge volume of natural gas. Under these circumstances it is obvious that rigid proration must be maintained to keep this new area from becoming a market threat. One factor that is causing no little concern in the Hobbs pool is the problem of dealing with overages and shortages among the various producers. Since some operators there are credited with a considerable shortage over a period of time prior to present proration schedules, it is felt that they should be entitled to make up their respective shortages by producing in excess of allowable limits. While this may be considered justifiable it would undoubtedly cause a general misunderstanding that would present additional problems in the enforcement of proration, to say nothing of dumping an additional quantity of oil on the market at a time when it might do more harm than good to the price structure.

Reports from operators in various sections of the field indicate that quite a number of additional wells will shortly be completed. Atlantic Oil Producing Company reports 30-minute flows on its State, ranging from 62 to 72 barrels. A late test on this well showed a gauge of 130 barrels in one hour with three per cent bs. Tidal Oil Company's Grimes 2 started flowing on Sunday, September 14, at the rate of 68¼ barrels an hour through tubing. Ohio Oil Company's McDonald 1, averaged 248 barrels of oil and 22 barrels of water daily on a six-day test. This well will probably be plugged back and completed this week. Continental Oil Company's State B1, gauged 83 barrels per hour with an estimated volume of 7,000,000 cubic feet of gas. Other tests show similar results to those outlined above, while at least 15 or more wells are down to a depth that will shortly class them as completed wells.

Allen Heads Hobbs Proration Body

BOSWELL, New Mexico.—At a special meeting of Hobbs operators and proration committee held Tuesday, September 16, E. G. Allen was elected chairman of the committee and R. D. Morrison of The California Company, who was recently transferred to Dallas from the Pacific Coast, was elected secretary. The production outlet and general field conditions remain unchanged.

Figures presented at the meeting showed that the potential of the Hobbs area is now 537,000 barrels daily and the number of wells due to be completed shortly are expected to increase that figure somewhat more.

According to preliminary estimates, at least 120 wells are actively drilling in this field, 20 of which are due to be completed within the next two weeks. Wells now at or near the depth of producing sand include those of the Amerada Petroleum Corporation, Atlantic Oil Producing Company, The California Company, Continental Oil Company, Empire Gas and Fuel Company, Getty Oil Company, Gypsy Oil Company, Humble Oil and Refining Company, Midwest Refining Company, Ohio Oil Company, Prairie Oil and Gas Company, Shell Petroleum Corporation, The Texas Company, Texas Pacific Coal and Oil Company and Tidal Oil Company. All of these companies are actively engaged in drilling one or more wells to the producing depth and most of them expect to bring in producing wells within a short period of time.

Swanson Made Chief Economist Of Bureau of Mines Division

Washington, D. C.—The appointment of E. B. Swanson as chief economist of the division of petroleum economics of the United States Bureau of Mines, is announced by Scott Turner, director of the bureau. Mr. Swanson has been serving as acting chief of the division since October, 1928. He is a graduate of the University of Washington and did graduate work in economics at the Robert Bookings Graduate School in Washington, D. C.

Other recent personnel changes in the petroleum economics division of the bureau include the promotion of G. R. Hopkins from associate petroleum economist to economic analyst and of A. H. Redfield from assistant scientist to assistant economic analyst.

The petroleum economics division was established as a unit in the economics branch of the Bureau of Mines on January 1, 1926, at which time H. H. Hill, chief engineer of the petroleum and natural gas division of the technologic branch, was designated to serve as chief of the petroleum economics division during its formative period.

Future work of the petroleum economics division will include additional studies of the distribution and utilization of petroleum products, according to C. P. White, chief of the economics branch of the bureau.

Gulf Coast and South Texas Fields

JACK LOGAN, *Staff Representative, Houston, Texas*

Five Completions Add 1000 Barrels To Refugio Output

HOUSTON.—Five new wells, all more than 5400 feet deep, were completed during the past week at Refugio, and as a result the average daily production of the field for that period was more than 1000 barrels higher than for the previous week. In addition to the five producers, there was another completion, a 6500-foot test which was a failure. Activity has continued on the decline, and there are now slightly less than 30 rigs in operation in the field.

Average daily output at Refugio during the week that has just passed was 29,050 barrels from 145 wells, an average per well of 200 barrels daily. During the previous week the production was 27,775 barrels daily from 146 wells, daily average of 192 barrels per well. While the new wells came in with relatively high initial production, several of the older wells went dead.

Probably the most interesting of the new wells of the past week was Houston Oil Company's Rose Lambert 2, second commercial producer to be completed in the 5900-foot oil sand two miles northeast of the deep production of the east edge of the main field. The discovery well of that wildcat producing area was Union Producing Company's M. F. Lambert 1, which came in February 25, 1930, flowing 1800 barrels daily at 5870-5884 feet, and which produced 15,947 barrels during August, boosting its grand total yield to 164,158 barrels. Houston Oil Company's new well is 700 feet south of Union Producing Company's M. F. Lambert 1. It came in flowing 625 barrels of 29 gravity pipe line oil daily through two one-half inch chokes, showing working pressure of 175 pounds. The oil sand was found from 5884 to 5890 feet. Six and five-eighths inch casing was cemented at 5883 feet, and a 21-foot joint of screen was set in the sand. Houston Oil Company's Rose Lambert 1, direct west offset to Union Producing Company's M. F. Lambert 1 producer, has been plugged back to 5000 feet, having failed to develop production at the horizon from which M. F. Lambert 1 is producing.

East Edge Well Completed

Another completion of considerable interest was Saxet Oil Company's Ryals 2, one of several 6500-foot wells on the east edge of Refugio. It came in flowing 200 barrels of 60 gravity gasoline daily through 3-16-inch and one-quarter inch chokes, with 4½-inch casing set at 6440 feet and 18 feet of screen set in sand at 6546-65 feet. The same company's Clint Heard 12 flowed salt water on a test made at 6431-43 feet, and the well has been abandoned. Saxet Oil Company also completed Kay 1, total depth 5488 feet, as a producer. It came in flowing 675 barrels pipe line oil daily through a one-half inch choke, with 400 pounds working pressure, from sand at 5475-88 feet. Subsequently it began yielding some salt water, and the water according to latest report amounted to 10 per cent of the fluid.

In addition to the previously mentioned producer on the Rose Lambert land, Houston Oil Company during the past week completed another well, West 1, Block 67, Refugio townsite. It came in flowing 25 barrels of gasoline daily through a three-eighths inch choke with working pressure of 2250 pounds, 21 feet of screen having been set in the oil sand which was logged from 6389 to 6397 feet.

Moody-Seagraves Producing Company's Mission-O'Brien 2 came in flowing 75 barrels of 57 gravity gasoline daily through three-eighths inch and one-quarter inch chokes, registering working pressure of 2000 pounds. The sand was found from 5690 to 5698 feet, but total depth of the hole is 5724 feet, and in completing the well 41 feet of screen were set, with 6⅝-inch casing cemented at 5685 feet.

Much of the drilling at Refugio is directed to the sands 5500 feet deep or deeper, and two other wells are in process of completion. Pearson Properties' Ryals 3 late last week was cleaning itself through three-eighths inch and one-half inch chokes, with 125 pounds pressure on the tubing, and a show of oil in evidence. A 16-foot joint of screen had been set to take in sand from 5472 to 5488 feet. Independent Oil & Gas Company's Rose Lambert 1 on a drill stem test from 5433 to 5440 feet tested 30 joints of oil and mud and built up 35 pounds gas pressure in 10 minutes.

Refugio Yield Over 10,000,000 Barrels

During August Refugio oil production aggregated 870,935 barrels from approximately 150 wells, and by the end of that month the total recovery in the field had reached 10,266,936 barrels from 177 wells, some of which are not producing now. For the week ending September 10 the field produced 29,038 barrels daily from 145 wells.

Union Producing Company was not only the largest producer in the field during August, recovering 236,622 barrels, but also ranks as the foremost producer for all time with total recovery of 2,532,324 barrels to its credit. Moody-Seagraves Producing Company and Houston Oil Company rank second and third, respectively, in production during August and for all time, each having produced over 1,500,000 barrels, while the fourth largest producing company, Saxet Oil & Gas Company, still lacked a few thou-

sand barrels of having produced 1,000,000 barrels by the end of August.

The Murphy lease of Refugio Oil Corporation still holds the record at Refugio for high productivity, the two wells on it, No. 1 and No. 2, having produced 15,226 barrels during August to boost their total recovery to 642,181 barrels. No. 2 is now dead, but No. 1 is yielding around 400 barrels daily. Union Producing Company's Fox Heirs 1, Block 71, is also among the more prolific wells, the August yield of 22,617 barrels having increased its recovery to a total of 210,390 barrels.

Following is a table showing the production history of Refugio, including the figures on August recovery:

Company—	August Prod.	All-Time No. wells	Total Produc.
Benedum-Trees Oil Co.	3,648	4	269,518
Dr. W. E. Hewitt	2,988	2	39,224
Houston Oil Company	145,399	34	1,679,808
Independent Oil & Gas Co.	40,451	20	636,200
E. M. Jones	41,268	6	235,015
Korona Oil Company	1,792	1	7,683
Larcro Gas & Petroleum Co.	1,358	5	142,446
Luling Oil & Gas Company	....	2	71,794
Mission Drilling Company	35,308	3	102,251
T. P. Morgan	3,350	1	28,884
Moody-Seagraves Produc. Co.	184,344	20	1,773,595
Pearson Properties, Inc.	16,294	7	550,094
Refugio Oil Corporation	15,226	2	642,181
Rutherford-Traylor Oil Co.	20,881	3	93,570
L. L. Smith	7,086	1	7,086
Saxet Oil & Gas Company	56,484	16	992,258
Sun Oil Company	21,513	8	384,802
Stroube & Stroube	6,745	1	40,224
The Texas Company	9,784	2	11,972
Texas Gas Company	394	1	26,007
Union Producing Company	236,622	38	2,532,324
Total	870,935	177	10,266,936

Pettus Field's Daily Production Averages 8250 Barrels

Houston.—Average production of the Pettus district, Bee County, during the past week was 8250 barrels daily from 32 wells, practically all of which are still flowing. That represented an average of about 258 barrels daily per well.

A new gas producing area in Bee County was opened the past week when Quincy Ranch 1 of William F. Morgan and Independent Oil & Gas Company blew in with a large flow of gas and odor of oil from total depth of 4930 feet. The top of the Jackson was reported to be at 4626 feet. The well is a wildcat located 12 miles southwest of Beeville and about 20 miles southeast of Pettus production at the center of Block 9, Quincy Ranch side of the Bee County Irrigation Syndicate land. It was placed under control immediately after it blew in. This constitutes the ninth oil or gas producing area opened in Bee County since the first was discovered February 1, 1930.

Two wells were completed the past week in the Cosden pool, west of the town of Pettus, and one in the Pettus townsite was completed after being deepened from its original producing depth. In the Cosden pool Cosden Oil Company's McKinney 4 came in flowing 15 barrels of oil daily through an 18/64-inch choke, with working pressure of 400 pounds, one 20-foot joint of screen having been set at total depth of 3693 feet. Sun Oil Company's Barnett 1 was completed as a gas well with estimated capacity of 30,000,000 cubic feet daily through a 5/16-inch choke on tubing, the working pressure being 900 pounds. The producing sand was found from 3595 to 3629 feet, and 32 feet of screen were set.

The workover well in the Pettus townsite was Glasscock Brothers' No. 1, Block 24. It came in flowing 75 barrels of 50 gravity oil daily through a one-half-inch choke from total depth of 3903 feet. The former producing horizon was from 3865 to 3877 feet.

New Producing Area for Duval County Promised

Laredo, Texas.—Promise of a new producing area in Duval County has been offered in a wildcat, Duval County Ranch 1, drilled by S. R. C. Oil Company (T. B. Slick interests) on a large lease block held on a 50-50 basis with Vacuum Oil Company. This test encountered oil-showing sand from 1715 to 1720 feet. An attempt to make a drill stem test failed when the seat gave way, and it was decided to cement 9⅝-inch casing, following which perforated pipe will be set in the sand for a production test.

This well is in the northeast portion of Duvall County, 10 miles northwest of San Diego, being in Section 293 at a point 3000 feet from the north line and 200 feet from the east line of the survey. The nearest developed producing areas are the Palangana and Piedras Pintas domes, the former, where sulphur has been mined, being 12 miles south, while the latter, an oil field, is two miles still farther south.

This Duval County wildcat area is on a line extending from Pettus through the Lucas field, being 30 miles southwest of the latter.

Darst Creek Active With 25 Operations Under Way

Seguin, Texas.—The largest amount of drilling activity recorded in the field in several months is now in progress at Darst Creek, with approximately 25 operations under way on inside locations, including a dozen with casing now cemented over the Edwards lime producing horizon.

Gulf Production Company is the most active operator in the field, with 10 wells drilling or waiting for cement to set. Other active operators and the number of wells they are drilling include Humble Oil & Refining Company, two wells; Louisiana Oil Refining Corporation, two wells; Magnolia Petroleum Company, three; Sun Oil Company, four; The Texas Company, six.

Cranfill-Reynolds Company is moving material onto the location which it has made for Meyers 1, a wildcat on a 100-acre tract in the J. Cantu Survey, south of Guadalupe River. The location is about two miles northeast and along the same fault trend from the same company's McIntyre 1, which was drilled recently, producing sulphur water when it was tested in the Edwards lime.

Another Guadalupe County wildcat which is of considerable interest is Suttle et al's Baenziger 2, about five miles south of Seguin and two miles west of the Cranfill-Reynolds Company sulphur water well on the McIntyre land. After being shut down for the drilling of a new water well, it is now going ahead, drilling below 1200 feet.

Brazoria County Test Drilling Ahead

Houston.—Following a successful fishing job, The Texas Company is drilling ahead at 7145 feet in shale in O. F. Ewing 1, wildcat on the Manvel torsion balance prospect, H. N. Little Survey, Brazoria County.

That company's J. H. Murdock 1 on the recently outlined

Frezno torsion balance prospect, northern Brazoria County, Charles Heywood Survey, is drilling gumbo at 1500 feet.

Both of the above tests are the first to be drilled on those prospects following the geophysical work.

Drilling in Progress on Three Sides of Moss Bluff Dome

Houston.—Drilling is in progress now on the southeast, northeast and northwest flanks of Moss Bluff dome, Liberty County, two locations being active on the southeast side, while there is one each on the other two flanks.

Gulf Production Company's McFadden 2 on the southeast flank, 450 feet north of McFadden 1, one of the two completed producers at Moss Bluff, was drilling late last week in shale at 4450 feet.

Humble Oil & Refining Company's Sergent 1, which is 3000 feet north of the Gulf Production Company producer, McFadden 1, is rigging up. Its location is 7850 feet west of the east line and 1050 feet south of the north line of the James McFadden Survey.

Humble Oil & Refining Company's Hylton 1 on the northeast side of the dome, two miles northwest of Gulf Production Company's McFadden 1, is drilling shale and lime at 3488 feet. Its location is 150 feet east of the west line and 500 feet north of the south line of the Hylton 23-acre tract in the B. M. Spinks Survey.

The test on the northwest flank of the dome is Humble Oil & Refining Company's Breeden 1, which is 150 feet north of the south line and 5600 feet east of the west line of a 229-acre tract in the B. M. Spinks Survey. It has spudded.

Set New Depth Record at Refugio

Houston.—A new depth record has been set at Refugio by Independent Oil & Gas Company's Jerry Reilly 6, which according to recent report was drilling at 6970 feet.

Chambers County Wildcat Abandoned

Houston.—The Texas Company has abandoned its wildcat, Jackson 1, located on the Salt Cedars torsion balance prospect in southern Chambers County. It had reached the depth of 5005 feet at which level shale was logged. Location of the test was 2625 feet south and 1000 feet west of the northeast corner of the T. & N. O. Railroad Survey, Section 17. It was the first well drilled there following the geophysical work. No sands were considered promising enough to test.

Saxet Oil Well Flowing

Corpus Christi, Texas.—Saxet Oil Company's Dunn 6, discovery oil well of the Saxet gas field, several miles west of here, produced during the past week at the rate of 75 barrels net oil daily, along with a large volume of salt water.

Saxet Oil Company's Donigan 2, six miles west of Corpus Christi, and the same company's Rachal 17 are rigging up. Independent Oil & Gas Company's Baldwin 1, which is about 2½ miles west of Corpus Christi is drilling at 4320 feet.

Jacob, Bussini and Pickett are moving in a heavier rig to drill deeper in their wildcat, Baldwin 1, located a short distance east of Sinton in San Patricio County. Its present depth is 4020 feet.

Jackson Gas Area Extended One-Fourth Mile Southeast

JACKSON, Miss.—Jackson's thirteenth gas producer which extends production approximately one-fourth mile east and slightly south was completed Wednesday, September 10, when Gulf Refining Company's Hartfield A-1, SW SE NW Section 7-5n-2e, Rankin County, was completed at 2398 feet in two feet of Midway chalk making an estimated gas yield of 50,000,000 cubic feet with 1040 pounds rock pressure. No water is present. The well came in after bailer was run 10 times.

Formation in the new gasser ran six feet lower than in the nearest previous gas producer, Ohio Oil Company's Payne 1, which is 1300 feet west and 330 feet north of Hartfield A-1, the gasser which blew in killing a member of the drilling crew and running wild for several days before being tamed. In Hartfield A-1 the Midway black shale was topped at 2290 feet and the Midway chalk was struck at 2396 feet. The black shale was 89 feet thick in the Payne 1 and 106 feet thick in Hartfield 1. Surface elevations of the two gassers is identical, each being 268 feet. The new gasser strengthens the belief that the main part of the Jackson gas field will be in Rankin County.

Gulf Refining Company's Crane-Lawrence 1, in center of northeast corner of Section 26-6-1e, is being drilled in, nine-inch casing having been set at 2352 feet. The same company's City of Jackson 1, NE SE Section 10-5-1e, topped the Midway black shale at 2361 feet, elevation being 254.6 feet. Crane-Lawrence 1 is being watched with special interest due to the fact that it is slightly over two miles northeast of Love Petroleum Company's Mayes 1, Section 2-5-1e, which is considered as the first real gasser of the field and that there are two dry holes between the two tests.

Another test now at an interesting state in the Jackson field is Love Production Company's Crisler 1, NW SW Section 2-5-1e, where 6⅝-inch casing has just been set at top of the Midway chalk at 2468 feet after the Midway black shale was encountered at 2373 feet, surface elevation being 269.8 feet.

Two new locations, both in Hinds County, were made in the gas area during the week ending September 13. Love Petroleum Company has derrick pattern laid for Maley 1, SE NW Section 15-5-1e, and Hawkeye Gas Company is building derrick for Webster 1, NE NW of the same section.

Two wooden derricks, both in Rankin County, were demolished by lightning during the week. One was Redmond and associates' Graves 1, Section 12-5-1e, which had not been spudded in and the other was Gulf Refining Company's Rainey A-1, Section 13-5-1e, recently completed as a gas well.

A. C. Glassell and associates have abandoned their second test in Southwest Mississippi near Natchez. This is Stowers 1, Section 28-8-2w, Adams County, which was dry at 2375 feet in what Glassell identified as the Minden beds. He said no other tests are planned immediately in that part of the state. The same operators' Belzhoover 1, Section 1-2n-5w, Wilkinson County, was recently abandoned as a dry hole at 4017 feet, still in the Jackson.

S. M. Walley, representing Pure Oil Company, has been around Jackson recently looking over prospective acreage for his company in Rankin County and in Lincoln County, 50 miles south of here. This company already has a large acreage block in Clarke County, East Central Mississippi. J. O. Lee, a geologist for the Pure Oil Company, is working around Jackson with several instrument men.

Mississippi Drilling Company has made location for a test in Winston County, Mississippi, Louisville district, in Sharbrough 1, NW NW Section 15-13n-14e.

Louisiana--Arkansas Field Notes

Zwolle East Extension Well Renews Activity

SHREVEPORT.—Definite extension a half mile east of production in the Zwolle east field of Sabine Parish, Louisiana, by successful completion of Lacey Petroleum Company's Tatum 1, SW NE Section 26-8-12, at total depth of 2423 feet, as a 750 to 800 barrel flowing well, is expected to start renewed activity in that area which is the most active part of the field at present. Standard Oil Company of Louisiana has laid a four-inch gathering line to the well and is taking the oil.

Still another half mile east of Tatum 1, Huber and Mann's Newton 1, NE SW Section 25-8-12, is making oil heads from the Zwolle chalk at total depth of 2417 feet. This well is 105 feet higher than A. H. Tarver's and Shreveport-El Dorado Pipe Line Company's Sabine State Bank 3, Section 26-8-12, which until Tatum 1 was completed was the easternmost producer of that part of the field. Elevation of Newton 1 is 294 feet.

Triangle Drilling Company and associates completed their third Trinity formation gasser in the recently opened Sugar Creek gas field of Claiborne Parish when Cox Fee 1, Section 6-19-5w, was completed at 4310 feet making an estimated daily gas yield of from 30,000,000 to 35,000,000 feet of gas daily. This gas is high in gasoline content and work is expected to begin soon on a gasoline plant which was announced several weeks ago. The new gasser is three-fourths of a mile west of the discovery well of the area, Kilpatrick 1, in Section 7-19-5w.

Three miles southwest of Odell and Lawton's Harris 1, Section 11-13-14, De Soto Parish, Louisiana, a reworked gas producer, which was three miles southwest of oil production in the Holly field, Pelham and Bundy's Rhodes 1, Section 32-13-14, which had been standing for several days with 2000 feet of oil in the hole and 200 feet of salt water, at total depth of 3009 feet, made a head of oil and salt water while being standardized. Six and five-eighths-inch casing was set at 2800 feet and the well had five feet of sand from 2990 to 2995 feet. This tends to prove the formation mapped out years ago in that area by H. D. Easton, Shreveport geologist, who believed the axis of the formation ran northeast-southwest through the present well and on into the vicinity of the Holly field.

Twelve miles northeast of Zwolle production W. M. Coats and associates' Collins 1, Section 28-9-10, Natchitoches Parish, which had checked some 70 feet high, proved disappointing when drilled in, bailing dry at 2404 feet and 100 feet above, 6⅝-inch casing having been set at 2224 feet. Another wildcat in the same parish, Cooper and associates' Cooper 1, Section 35-11-10, encountered what was identified as a chalk rock formation at 1280-90 feet and are arranging a drill stem test.

Louisiana Gas & Fuel Company has taken over A. C. Glassell and associates' Pittsfield Plantation 1, Section 41-8-10e, Concordia Parish, Central East Louisiana, and have recovered hung drill stem from the hole and re-set 6⅝-inch casing at 1414 feet, total depth being 1453 feet. This well showed 5,000,000 to 10,000,000 feet of gas in the Jackson when first drilled in. It is believed Louisiana Gas & Fuel Company has also taken over an interest in Glassell's 150,000 acres of wildcat land surrounding the well. In Tensas Parish, in this same general section of the State, Stovall Drilling Company is drilling ahead in Miller 1, Section 18-10-10e, after testing dry through drill stem at 1010-17 feet.

Three Wildcats Abandoned

Three wildcat tests in North Central Louisiana were abandoned as dry during the week. El Dorado Chief Oil Company's Southern Advance Paper Company 1, Section 35-15-4w, Jackson Parish, was abandoned at 1400 feet. Arkansas Fuel Oil Company's Lewis & Company 1, Section 26-20-4w, Lincoln Parish, was abandoned as dry at total depth of 4292 feet, 6⅝-inch casing having been set at 4234 feet. Ayers Brothers quit Wicklipp 1, Section 9-5n-2e, Rapides Parish, as dry at total depth of 3540 feet.

R. O. Roy, discoverer of the Holly field of De Soto Parish, after abandoning two tests three miles northwest of production in that field is rigging up for another test in the same locality, Nelson 2, Section 35-15-13. In the Keatchie district, which is wildcat territory in DeSoto Parish, W. H. Weichert is rigging up for Smith 1, Section 1-14-15. Standard Oil Company of Louisiana has spudded in another test at Holly which has four producers, the latest test being Farmer A-3, NW NE Section 5-13-13, 10-inch surface casing having been set at 103 feet.

Texas-Louisiana Pipe Line Company has made location for Wall 1, Section 33-23-16, north Caddo Parish, Rodessa district, where R. W. Norton recently completed the deepest commercial well in North Louisiana to open a Trinity formation gas field below 5500 feet. Norton is still negotiating with United Gas Company for his 5000-acre block and gas well. The four-mile southeast extension of Zwolle received two new locations, Pelican Natural Gas Company's Louisiana Long Leaf 5, NW SW Section 4-7-11, and Philp and associates' Turner 1, NW NW of the same section. C. W. Frierson has spudded in a wildcat test in Ouachita Parish, Haynes 1, SE SW Section 9-17-3e, and is drilling below 1100 feet.

Red Bank Oil Company has a fishing job in Hamm 1, Section 33-10-26, Franklin County, Northwest Arkansas, which

showed 3,000,000 to 4,000,000 feet of gas at 3750 feet recently. This is a wildcat area and if gas is obtained in commercial quantities would be the deepest oil or gas production in Arkansas.

Start Three Arkansas Tests

Arkansas Louisiana Pipe Line Company has launched three new tests in two Arkansas gas fields, which it opened. Two of the tests are in Johnson County and one in Pope County. The wildcat territory of Miller County where a small producer was recently completed in the Woodbine has another test under way, Big Bill Oil Company's Dean 1, NW SW Section 30-15-25, which is drilling below 650 feet after setting surface casing at 110 feet. The only other new test in that area in the drilling stage is E. and F. Oil Company's E. L. Beck 1, Section 36-15-26, drilling below 2000 feet. An old hole near the producing well is being re-worked and two other locations have been made.

Henderson and associates' Tilyou 1, Section 26-8-24, Pike County, Arkansas, a wildcat, encountered a show of heavy oil at 567 feet, but due to it being apparently of little commercial value, the test is being deepened. T. Luckett's Balcon 1, Section 36-7-21, Yell County, a wildcat which had an oil show around the 4000-4100 foot level has shut down in black shale at 5305 feet, waiting on fuel.

Belmont and associates tested dry through drill stem in their Dean 1, Section 16-15-17, a wildcat in Ouachita County, Arkansas, from 1800 to 1900 feet and are ratholing ahead.

Two East Texas tests are drilling in. W. D. Chew's Fee 1, William Hamilton Survey, Marion County, a wildcat, is drilling plug at total depth of 2532 feet after six-inch casing was set at 2270 feet. Natural gas Products Company is drilling plug in Tom Moore 3, B. C. Jordan Survey, Panola County, an offset to the first Trinity gasser in that gas field, 6⅝-inch casing was set at 4360 feet. In the same county, Arkansan Louisiana Pipe Line Company abandoned Brumble A-2, in the Jordan Survey, after drill stem was hung, with total depth of 4400 feet and have skidded over 100 feet east for another hole. Bell and associates have set 8⅝-inch casing at 2047 feet to test an oil show in a sandy shale formation, bottom of hole being 2075 feet in a wildcat test in Panola County. This test is Burnett Lumber Company 1, S. B. Hendricks Survey. Loring Oil Company's contemplated deep test in Sabine County, Texas, is below 3400 feet. This is Nona Mills Lumber Company 1, James Mason Survey.

Republic Production Company has blocked 16,000 acres in Gregg County, East Texas, paying one dollar per acre. An early test is planned. The block is bounded by large tracts owned by Gulf Refining Company, Humble Oil & Refining Company and Southern Crude Oil Purchasing Company.

Hudson and associates' Burton 1, Section 35-12-2e, a wildcat in Caldwell Parish, Louisiana, between Urania production and the Richland gas field, has resumed drilling at 1090 feet. A show of gas and oil is claimed at 708 feet, where a formation identified as the Jackson was encountered. In this area Gulf Refining Company has blocked 30,000 acres from Louisiana Central Lumber Company for geophysical testing and has a crew of men at work there. Louisiana Oil Refining Corporation has 3000 acres and Vacuum Oil Company of Houston has 500 acres in that general locality.

Move Offices

Los Angeles.—Signal Oil & Gas Company has announced the removal of its offices to the Signal Oil & Gas Building, 811 West Seventh Street, Los Angeles. The building has many novel features, including an air cooling system for insuring an even temperature.

News From Rocky Mountain Fields

Dry Creek Well Opens New Montana Field

Red Lodge, Mont.—Ohio Oil Company's discovery well on the Dry Creek structure near here is good for 500 to 1000 barrels of 52-degree gravity crude oil, and definitely proves up another new light oil field for the Rocky Mountain States. The well is bottomed at 5510 feet in the Dakota series; it had a 15,000,000 cubic foot flow of gas at 4400 feet with a rock pressure of 1700 pounds. The first well drilled on the structure had similar amount of gas in the same sand, and was saved as a gasser when the hole was lost. It is about a quarter mile northwest of the oil well. The field should be long-lived since the oil sand is more than 100 feet thick, and is all saturated.

Baggs Structure Well is Gasser

Baggs, Wyo.—What threatened to be a disastrous surprise to Red Feather Oil Company was the discovery of gas production 10 feet above the sand in which it was anticipated as its second well on the Baggs structure, Southern Wyoming. The well caught fire and flames rose above the walking beam. Fire was quickly extinguished, however, and the well was completed this week. Gas from this well is to be used as fuel in drilling deeper the company's test for oil which has been standing shut down at 2300 feet. The company plans to build a carbon black plant here, and also to furnish the community with natural gas for fuel.

Get Large Gas Well in Elk Basin Field

Cody, Wyo.—A big gasser in the Elk Basin field, lying partly in Montana and partly in Wyoming, was completed by Continental Oil Company with a production of 60,500,000 cubic feet in the Dakota series. It is probable that this gas will be sold to Rocky Mountain Gas Company, which supplies Billings and other Montana towns with fuel.

Wyoming's Deepest Test Down 7160 Feet

Cody, Wyo.—The deepest hole ever to be drilled in Wyoming is on the Badger Basin oil structure in Park County, northwestern corner of the state, where Resolute Oil Company is drilling below 7160 feet. Test is an out-and-out wildcat.

Plan Wildcat Test of Lake Basin Structure

Billings, Mont.—F. M. Blake and associates of this city will drill a wildcat well in the Happy Hollow district, Lake Basin anticline, 14 miles northwest of Billings. Geology reconnoissance is by Charles T. Lupton of Denver. Territory was first geologized by E. T. Hancock and W. T. Thom, Jr., and J. D. Sears in 1918 for the United States Geological Survey. A test believed now to have been off structure was drilled by Minneapolis people about five years ago.

(Continued on page 90)

News From California Fields

BRAD MILLS, ***Staff Representative, Los Angeles, California***

California Price Cut

LOS ANGELES.—Effective 7 a. m., September 15, Standard Oil Company of California has announced a reduction of from two cents per barrel in the posted prices of refinable crude produced in most fields in the state. The heavier grades remain unchanged.

The new schedule for Long Beach, Seal Beach and Huntington Beach ranges from $1.12 for 24 gravity crude to $1.48 cents for 32 gravity oil, as against the former schedule of from $1.14 cents to $1.60 for the same grades. The reduction ranges from two to 12 cents and averages about nine cents.

The new schedule for Santa Fe Springs runs from $1.05 cents for 24 gravity oil to $1.78 cents for 39 gravity crude, as compared with a former range of from $1.07 to $1.90 cents for the corresponding grades. No reduction was posted at Elwood, but most of the lighter grades in San Joaquin Valley fields were reduced.

Playa Del Rey Output Still Under 20,000 Barrels

LOS ANGELES.—Despite a steady stream of completions in the Playa del Rey field, production has not passed an average of 20,000 barrels and there is a possibility that the peak output will not greatly exceed 30,000 barrels. The situation changes from week to week and estimates of a 50,000-barrel peak a few weeks ago did not seem out of place. With about 150 active projects, the field could stage a rally which would send production considerably above what now promises to be the future peak level. The rush to develop the townlot leases has grown since February and soon enough completions will have been recorded to establish a more definite value on the two producing zones.

The rapid decline of the best completions is taken as evidence that it will require a steady supply of new wells to maintain even the present average. A cluster of large completions on two or three consecutive weeks could cause a reversal, however, and send the field total to a much higher level than generally admitted. Sand and water have not caused the worry expected in a field of this type, although sand is present in the edge producers.

The small average initial production of the most recent completions does not indicate a satisfactory condition for a profitable townlot play, and if the natural tendency to obtain a smaller initial yield as development progresses prevails, wells finished late in the program stand little chance of paying out. The usual spirit of optimism prevails among the one-lot operators and all are sure that big producers will fall their way. A large percentage of the wells are being drilled on a very limited amount of capital and at the first sign of faltering, many will be stopped by creditors. Already a few edge wells have been taken over, but there has been no appreciable slump in activity because of financial difficulties. It is safe to say, however, that many of the wells now drilling will never be completed.

Allied Petroleum Company re-completed Rawco-Woodward 1 in the deep zone at 6130 feet with an initial production of 1900 barrels. This was one of the best wells of the week and gradually increased its flow from 1500 barrels. The oil was 23.1 gravity and showed a negligible cut. One of the unusual completions of the week was Thomas Kelly and Son's Frazier 1, which was finished in the upper zone with an initial production of 400 barrels of 29 gravity oil and 10,000,000 cubic feet of gas. The unusually high gas flow probably accounted for the gravity of the oil and made the well outstanding among the smaller completions. Mutual Oil Company completed Venice 1 at 6175 feet with an initial flow of 800 barrels, but the oil showed a large percentage of water. El Camino Oil Company completed

Venice 1 on the compressor at 6120 feet, this deep zone producer settling to a flow of 500 barrels of 23 gravity oil. Other completions were not outstanding.

The producing limits of the field have not been defined, but the townlot sector apparently offers every advantage afforded by the larger tracts. The producing zones are not uniform and subsequent discoveries may greatly add to the value of the field. Some geologists are influenced by the fact that the field lies in line with Torrance and bears a close resemblance to the structure.

New locations are exceeding completions but the odds should swing the other way by the end of September. A few outstanding completions or substantial field extensions would increase activity, however, and extend the intense activity well into next year.

Los Angeles.—A plan calling for an allowable production of 550,000 barrels has been adopted by the general committee of 11 and the new schedule was declared in effect September 17. The program is to continue until January 1. Actual allowable is only 540,000 barrels, this total giving some leeway for flush production. The new schedule gives Long Beach 95,000 barrels, Santa Fe Springs 90,000 barrels, and Ventura 46,500 barrels.

Huntington Beach

Los Angeles.—Agitation for deep tests in certain Los Angeles basin fields, where the decline in production has caused operators to desire a stimulation to compete with the critical fields of the state, is not so prevalent as during the boom days at Santa Fe Springs and early development at Long Beach, but the persistency of townlot operators at Huntington Beach has kept alive a mild movement to develop the deeper zones in this district. Several wells which might be termed mystery tests have been drilled from time to time but for one reason or another have not found production. The Huntington Beach field is regarded with favor by some geologists and operators, while others profess to see little relationship between the deeper zones in this field and those producing in other fields along the Newport-Beverly fault line. W. E. McCaslin is drilling at 5800 feet in No. 1, with the formation running to shale and thin streaks of oil sand, but has found nothing to warrant a production test. Several other wells are ultimately headed for the deeper zones at Huntington Beach, but in the absence of important showings the tendency is not to continue the wells to a level far below 6000 feet. The steady decline of production has reduced the yield of many wells to a very low figure and the desire of several small operators to lift their leases from the "marginal" class has prompted tentative plans to drill deeper.

Montebello

Los Angeles.—St. Helens Petroleum Company has cored streaks of oil sand between 5200 and 5220 feet in Monterey 15, a deep test in the Montebello field, and will run a string of 6⅝-inch casing to test the formation. The sand did not indicate a high gas content but this may have been caused by pulling of the slender core. The Montebello field has long been looked upon with favor by a few operators who hold to the theory that the deeper zones will be productive.

Kettleman Hills Well Increases Flow

Coalinga, Calif.—Steadily increasing its production to 10,000 barrels of 40.6 gravity oil and 60,000,000 cubic feet of gas, Superior Oil Company's Huffman 1 has demonstrated that the North Dome at Kettleman Hills is unmistakably California's greatest light oil producer and a field of almost unlimited possibilities. Completed at the remarkable depth of 8323 feet and flowing from more than 1000 feet of Temblor sand, the tubing pressure has increased to 1500 pounds and the casing pressure to 2250 pounds. The well is flowing through four one-inch beans and probably could produce more oil if allowed to flow at a maximum rate. The oil shows no sand and is also free from water. It proves the North Dome to be at least nine miles long and indicates edge development of major proportions. The top of the Temblor zone apparently contained water and the fact that the well appeared wet during the first test makes it even more important in its present status. The well proves a vast strip and new locations have already been made on the strength of the completion. Much of the fee land which is not strictly bound by provisions of the curtailment agreement probably will be developed, while offsets on government permits will be drilled if it becomes necessary to protect them from drainage. Standard Oil Company has made a location on the northwest quarter of Section 29-21-17, an offset to Superior Oil Company's recent completion.

Elwood

Santa Barbara, Calif.—After establishing a 24-hour record of 14,100 barrels during the last period of a five-day test, Barnsdall Oil Company's Permit 88-4, record well for the Elwood field and by far the largest producer in California, has been beaned back to meet curtailment provisions. The well produced an average of 12,000 barrels during the five days, and had the remarkably low gas flow of 8,000,000 cubic feet daily. The well was produced through four, 1¼-inch beans, a four-inch flow line having carried the entire flow to storage tanks. This is the largest well completed in California in 14 years and the first to average 10,000 barrels during such a long test within a similar period. A few completions at Santa Fe Springs started with flows of 10,000 barrels or better, but declined rapidly from the initial. Permit 88-4, which is located on a state tideland permit extending into the Pacific Ocean, was completed at the remarkably shallow depth of 3393 feet. It is several hundred feet outside the mean high tide line and on a continuation of a pier which has been used for drilling of other ocean wells.

Long Beach

Long Beach, Calif.—New locations at Long Beach again exceeded completions and the number of active drilling wells increased to 140 during the week. It is the most active area in the state and despite the recent absence of outstanding completions manages to hold its own. Activity is centering in the southeast and Los Cerritos districts, with current locations tending toward these areas. The reasonable assurance that at least a commercial well will be the reward for drilling in most parts of the field has influenced operators to develop their holdings to the limit in an effort to build up a settled production.

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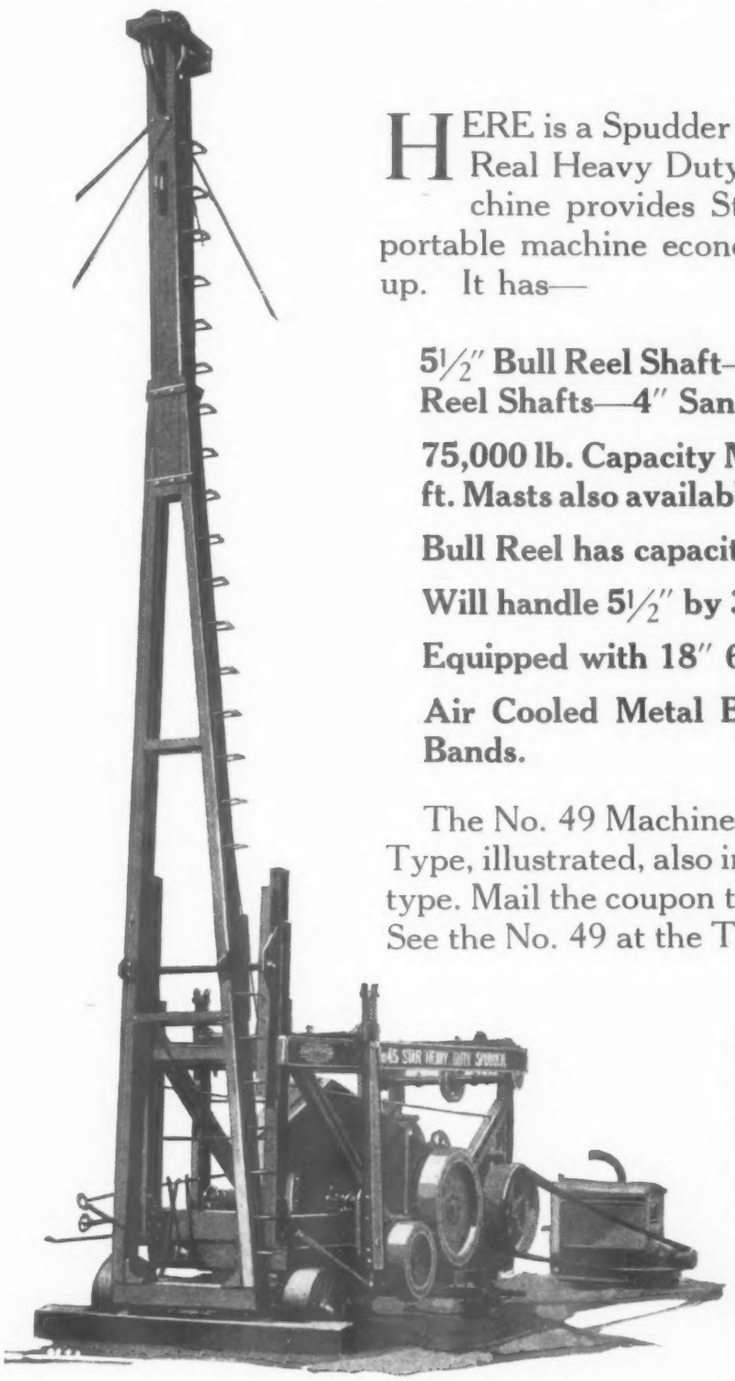

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Porterville

Tulare, Calif.—The rush of small operators to develop the shallow Porterville field is growing and 20 active projects are under way. Such activity is unusual, in the face of the absence of a commercial producer. The excitement started a few months ago with the announcement that Terra Bella Oil Company had proven the structure with a 50-barrel well at 918 feet. Subsequent tests were made, however, and it developed that the well produced more water than oil. Despite failure of the test to become the "discovery" well, small operators were attracted by the possibilities of the district and rushed in to secure leases. The oil sand has been found in wells drilled since the original discovery, but the formation looks none too promising. The oil is heavy and commands a low price. No major companies are active in the field, the activity representing the typical small operator who wishes to drill with limited capital.

Maricopa Flat

Taft, Calif.—After getting away to a flying start more than a year ago, field development in the Maricopa Flat district has become less impressive and the area has assumed a more settled aspect. Large completions were frequent during the first few months of activity, but difficulty in completing wells because of sand and other troubles has tempered the drilling campaign considerably. A series of small completions on leases favorably located was not conducive to intensive drilling and new locations have hardly kept pace with wells finished. Union Oil Company has reached a depth of 7740 feet in Houchin 1, Section 10-11-23, making it by far the deepest test yet drilled in the district. The favorite completion depths during the early part of the development program were between 3000 and 3500 feet, but lack of uniformity and sand conditions have made a "feeling around" practice common procedure.

Weed Patch

Bakersfield, Calif.—Shell Oil Company is preparing to deepen Porter-Day 1, an important wildcat test in the Weed Patch area, about six miles south of Edison and nine miles southeast of Bakersfield, following a short production test at 5370 feet. The well flowed 23 gravity oil at a 150-barrel rate and promises to open up a new oil field. Although not a commercial producer as it now stands, the well is the most important now drilling in Kern County will be the forerunner of extensive operations over a wide district if ultimately a satisfactory completion. Production averaged about 100 barrels per day, showing a cut of 40 per cent. The water probably was caused by a faulty shutoff. With a tubing pressure of 265 pounds and casing pressure of 1350 pounds, the formation demonstrated that it has the necessary differential to flow the wells.

Devils Den District Being Tested Anew

Bakersfield, California.—Location of a well in the Devils Den district by Standard Oil Company of California revives interest in one of California's most unique areas and the test should go a long way toward determining the possibilities of the deeper zones. The well is located on the south half of Section 14-25-18 and is about one and one-half miles northwest of the small production developed a generation ago. A study of the surface in this district reveals several interesting geological facts and indicates that an accumulation far greater than that already known may exist.

Rocky Mountain Fields

(*Continued from page 86*)

Wagon Hound Wildcat is Promising

Thermopolis, Wyo.—Midwest Refining Company has continued showings of oil and gas in its wildcat test on the Wagon Hound structure, Hot Springs County. The Embar sand is the objective in this test and is expected at any time. Total depth is 3810 feet.

Lodgegrass Test to Be Drilled Deeper

Lodgegrass, Mont.—The test which has been standing at 3056 feet on the Lodgegrass structure, Southeastern Montana, for the last several months, is to be drilled 700 feet deeper by Embar Drilling Company. This structure was geologized by Charles T. Lupton of Denver.

Resume Work on Dolores County Well

Durango, Colo.—Ohio Oil Company is making preparations to resume operations at its Glade 1, Dolores County, 25 miles northwest of Dolores, Colorado. The test was drilled to 6747 feet by Transcontinental Oil Company and will now be deepened to the Pennsylvanian, where Continental Oil Company got production in its Rattlesnake dome (New Mexico) well last year.

Plan Wildcat Test of Button Butte Structure

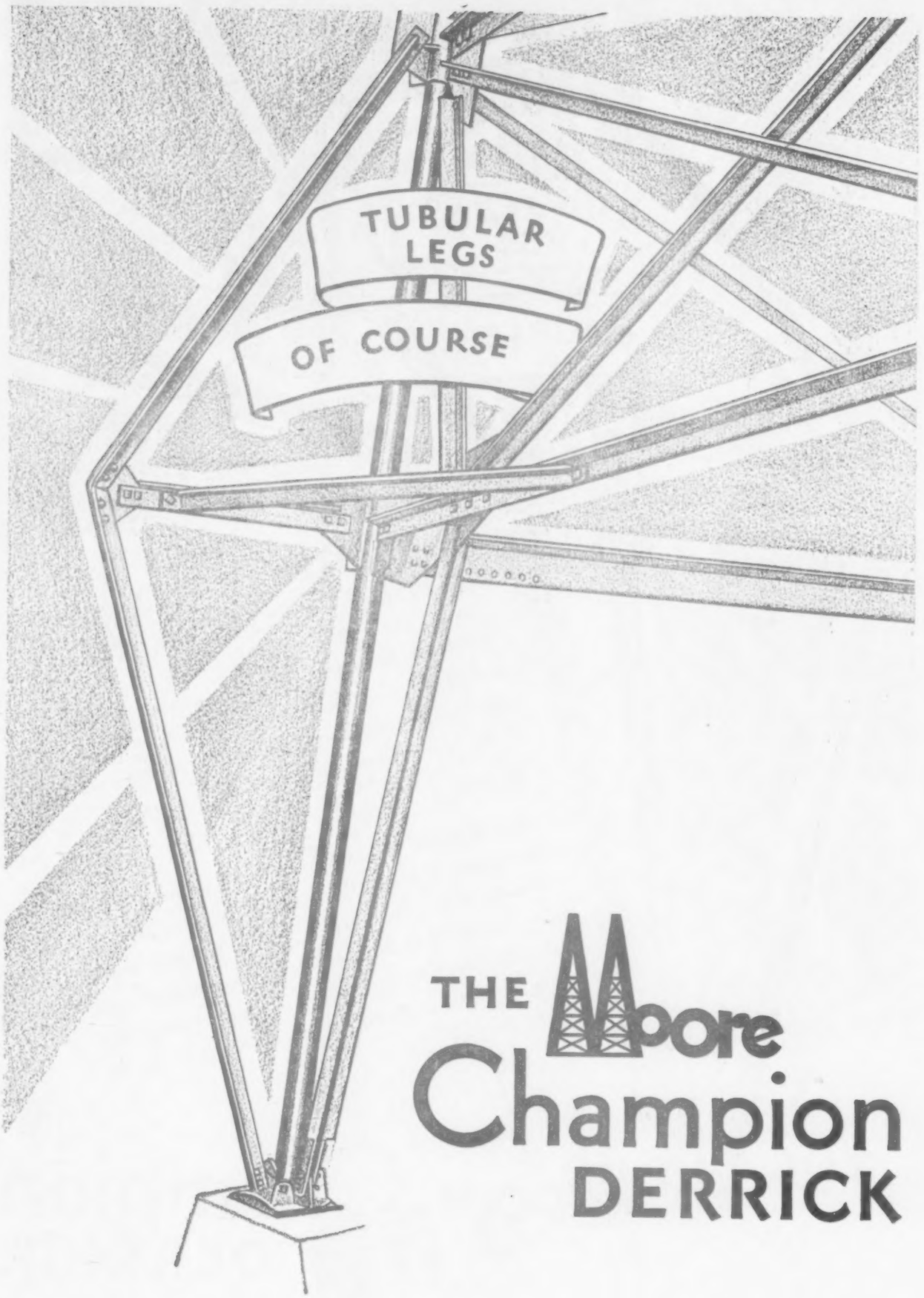
Winnett, Mont.—Northern States Oil Company, a subsidiary of Century Oil Company which is controlled by the Frank F. Book interests of Detroit, has spudded in a wildcat well on the Button Butte structure, Central Montana. The location is in Fergus County on the west end of the Flatwillow anticline.

Drill Second Rattlesnake Dome Well

Gallup, New Mexico.—Continental Oil Company has all material on hand here ready to move in to its location on Rattlesnake Dome, where it plans to drill its second well to the Pennsylvanian. The first well had a daily initial production of 750 barrels from this horizon; it was the first well ever to be drilled to this sand in the San Juan basin territory.

Movie Actor Stops Venice Leasing

Los Angeles.—The City of Los Angeles has been permanently enjoined from leasing any part of the Venice beach or tidelands lying outside the mean high tide line, a decision in Superior Court having dealt a blow to any hopes the city may have had for developing the strip outside the beach playground. The decision was the result of a suit filed by Lewis Stone, the actor, to prevent the Department of Playgrounds and Recreation from leasing the strip for development by means of ocean piers.



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COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
GREENE COUNTY—		
H. D. Freeland & Co., Cohen Hrs 1	¶1¼	2219
J. B. Nuss & Co., Lemley 1	2	1949
WASHINGTON COUNTY—		
W. J. Cushing & Co., Forney 1	¶¼	1300

WEST VIRGINIA

RITCHIE COUNTY—		
E. E. Pope, Wilson 8	2	....
P. N. Rinehart, Moore 3	10	....
LEWIS COUNTY—		
McCall Drilling Co., Shea Hrs 1	¶¼	2550
Hope Natural Gas Co., Cathers 7491	4	....
BOONE COUNTY—		
Godfrey L. Cabot, Inc., Federal Coal 21	¶1	3425
Federal Coal 39	¶1¼	3004
KANAWHA COUNTY—		
Buff Lick Oil & Gas Co., Young 1	3	....
CALHOUN COUNTY—		
L. P. Bickel, Stump 11	¶½	....
DODDRIDGE COUNTY—		
Lucas & Nawhimney, Puts 1	¶¼	1721
MASON COUNTY—		
E. C. Moffett Drilling Co., Newton Hrs. 1	¶1	....
BRAXTON COUNTY—		
Philadelphia Natural Gas Co., Bennett 1	*	2982
CLAY COUNTY—		
Godfrey L. Cabot, Inc., Hong 1	*	3655

KENTUCKY

LAWRENCE-JOHNSON COUNTY—		
Swiss Oil Corp., Sparks 37	3	....
J. Lyons 38	5	....
J. Lyons 57	5	....
S. Lyons 36	5	....
JOHNSON-MAGOFFIN COUNTY—		
Peoples Pittsburg Trust Co., Wheeler 2	3	....
POWELL COUNTY—		
E. A. Farmer, Tr., McCoy-Rogers 1	2	....
WARREN COUNTY—		
Morrow W. Harp, Morgan 12	6	531
McLEAN COUNTY—		
J. C. Ellis & Co., Nichols 1	*	....
UNION COUNTY—		
Wood Oil Co., Young 1	*	....
HANCOCK COUNTY—		
D. T. Bolling, Crowe No. 2 tr. 1	80	....
Duncan & Beeson, Richardson 1	5	....
HENDERSON COUNTY—		
Niagara Oil & Gas Co., Shemwell 1	12	....
Ellis & Young, Priest 1	8	....
OHIO COUNTY—		
Chester Oil Co., Patton 6	100	....
DAVIESS COUNTY—		
Eastern Gulf Oil Co., Tyler 5	40	....
S. M. Sirman, Atherton 5	25	....

SOUTHEASTERN OHIO

JEFFERSON COUNTY—		
R. Graham & Co., Blackburn 1	10	....
MONROE COUNTY—		
Shay McMullen, Hines 3	¶¼	1742

CENTRAL OHIO

KNOX COUNTY—		
Bell Bros., Colopy 1	*	722
Upham Gas Co., Bross 2	¶½	3822
Beaman 5	¶1½	2704
H. E. Perkins, Ross 1	¶¼	2721
Ohio Fuel Gas Co., Ross 3	¶1½	2749
GUERNSEY COUNTY—		
Ohio Fuel Gas Co., Alloway 5	50	3538
Jewell & Co., Lanning 1	¶¼	3521
HOLMES COUNTY—		
East Ohio Gas Co., Kendall 2	6	3240
Ohio Fuel Gas Co., Bucy 1	*	....
ASHLAND COUNTY—		
I. E. O'Hail, Doup 2	¶¼	2830
Meltzer & Co., Black 4	*	821
MUSKINGUM COUNTY—		
Hopewell Oil & Gas Co., Sidle 4	25	3320

Tabulation and Comparison on Page 68

Company, Well and Location	Initial Production Bbls.	Depth
STARK COUNTY—		
Ohio Brass Co., Oberlin 1	¶3	4181
FAIRFIELD COUNTY—		
Ohio Fuel Gas Co., Shaw 2	¶¼	738
TUSCARAWAS COUNTY—		
Gordon Oil Co., Meek 2	¶2	3668
PERRY COUNTY—		
Ohio Fuel Gas Co., Larzelers 3	*	3584
LICKING COUNTY—		
The Preston Oil Co., Stasel 2	*	667

NORTHWESTERN OHIO

HARDIN COUNTY—		
Neely & Underwood, Gardner 1	¶½	....
Eagon & White, Strang 1	¶½	....

INDIANA

VIGO COUNTY—		
Siosi Oil Corp., Thompson-Riggs 1	60	2222
DAVIESS COUNTY—		
Hartman & Co., Swan 2	*	1289
PIKE COUNTY—		
C. E. Wommer, Thomas 3	*	1185
Chas. E. Talliaferro, Jr., Talliaferro 2	¶3	1160
P. C. Andrews, Atkinson 11	3	1358
Rogers & Lee & Co., McAtee 4	*	1230
H. H. Risher, Crow 1	*	....
William Bell & Co., Hyneman 1	¶½-20	1580
Blue Bird Oil Co., Ingler 5	6	1033

ILLINOIS

McDONOUGH COUNTY—		
Michigan-Illinois Oil Co., Clark 1	2	....
CRAWFORD COUNTY—		
Niagara Oil Corp., Apple 13	10	....
ST. CLAIR COUNTY—		
The Ohio Oil Co., Frye 10	75	722
CUMBERLAND COUNTY—		
Petroleum Exploration Co., McFarland 1	*	1600

TENNESSEE

OVERTON COUNTY—		
Cumberland Oil Co. of New York, Garrett 1	¶2½	600
Garrett 2	¶2	600
PUTNAM COUNTY—		
Kirkwood & Campbell, Near Cookville 1	¶1½	1800

MICHIGAN

ISABELLA COUNTY—		
G-Lee-P Oil Co., Grubb 3	320	3590
Leonard Oil Co., McClintic 8	150	....
Mellon-Pollock Oil Co., Lynch 1	¶1	1325
Mason Drilling Co., Harrison 1	¶2	1253
CLARE COUNTY—		
Peninsula Oil Co., Bowler 1	*	....
BRANCH COUNTY—		
Gibson-Johnson-Borden, Inc., Teller 1	*	....

CALIFORNIA

ELWOOD—		
Barnsdall Oil Co., State Permit 88-4	13,000	3393
Pacific Western Oil Co., State Permit 92-7	4600	3515
LONG BEACH—		
Jack Johnson, Castle 1	150	7040
Dabney-Johnson Oil Corp., No. 43	700	6700
A. N. Macrate, Hines 1	40	6955
MIDWAY—		
Richfield Oil Co., Calivada 4	50	3757
KETTLEMAN HILLS—		
Superior Oil Co., Huffman 1	7000	8325
PLAYA DEL REY—		
Burket & Brown, No. 1	900	6135
George F. Getty, No. 2	400	4120
Knickerbocker Pet. Co., No. 1	2000	6160
B. C. Morrison, Venice 1	150	6045
Venice 2	1200	4160
Nelson Pet. Co., Venice 1	2600	6150
RINCON—		
Richfield Oil Co., Hobson-State 3	275	2565
SANTA FE SPRINGS—		
Union Oil Co., Farwell 19	150	7865

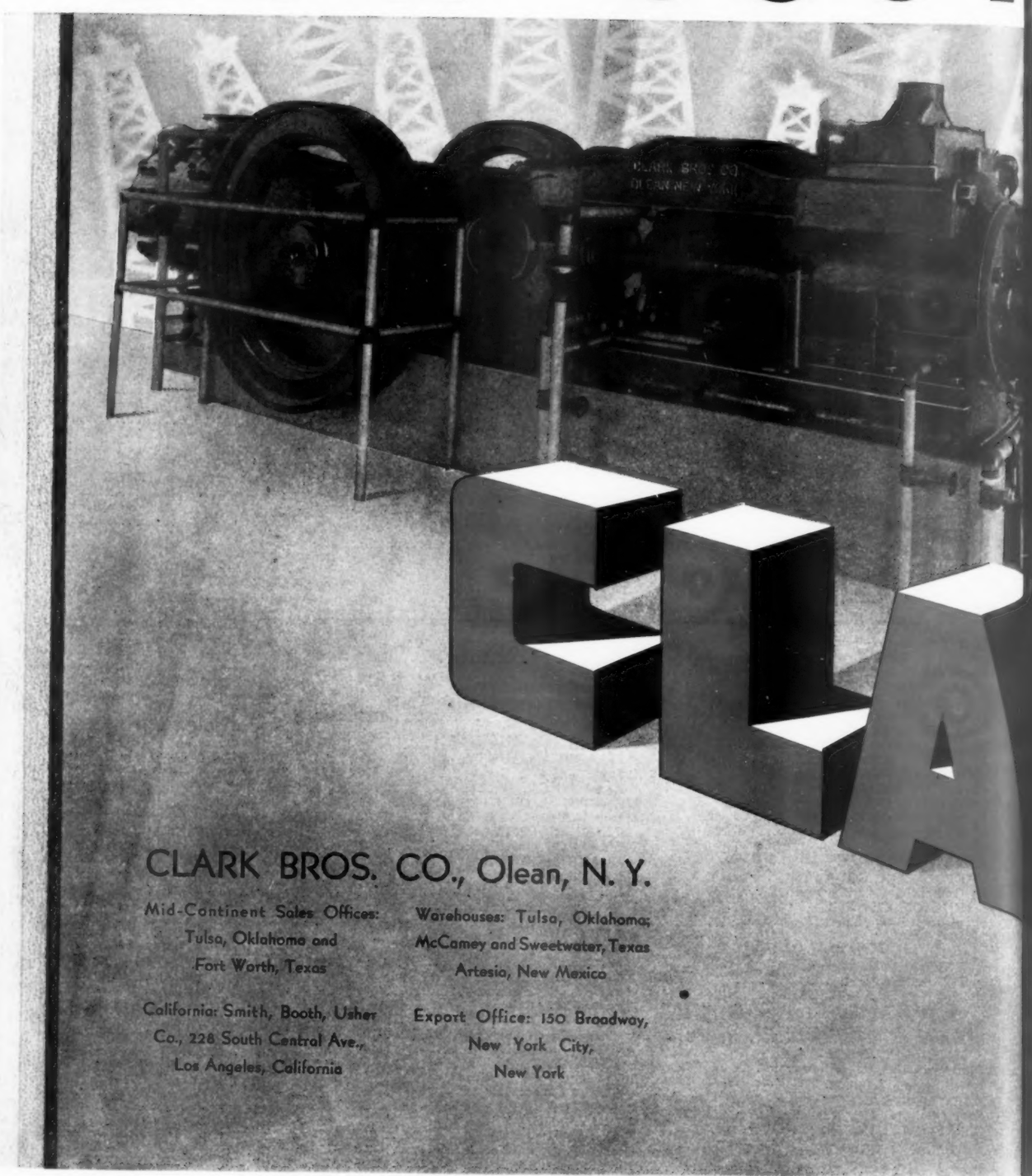
KANSAS

BUTLER COUNTY—		
Empire O&R, Koogler 102, ne c se 20-26-5e	100	2549
COWLEY COUNTY—		
McKnabb et al, Johnson 1 "C", se sw nw 28-33-3e	45	3275
Lewis Oil Co., et al, Orr 1, ne c 30-31-6e	400	2963
Pryor, Lockhart & Patton, Sitton 1, nw c 29-31-6e	500	2939
Pryor, Lockhart & Johnson, Headley 1, sw c 20-31-6e	150	2935
ELLIS COUNTY—		
Byrnes et al, Fisher 1, c se 4-11-20w	*	950
GREENWOOD COUNTY—		
Tulsa Oil Co., Beauchat 2, sw se sw 6-24-12e	20	1784
Syndicate O&G, Shook 6, c sw nw 6-24-12e	100	1760
Simmons et al, Greenwood 3, ne se sw 19-22-11e	750	2102
Empire O&R, Greenwood 3, nw sw se 19-22-11e	10	2143
Morrowery et al, Denchfield 1, se c nw 12-27-9e	*	2320
McPHERSON COUNTY—		
Sinclair O&G, McCurdy 5, ne c se 33-20-3w	1270	3371
Gypsy Oil Co., Kinney 4, nw c sw 34-20-3w	955	3458
MORRIS COUNTY—		
Urshell et al, Scott 1, ne c sw 6-16-6e	*	2420
PAWNEE COUNTY—		
Amerada Pet. Corp., Welch 1, c se se, 30-21-17w	*	4228
Skelly Oil Co., Millhouse 1, c sw 34-23-17w	*	5002
RICE COUNTY—		
Texas Co., West 1, se sw nw 21-20-10w 5½ hrs.	400	3351
RUSSELL COUNTY—		
Texas Co., Leonard 2 (owdd) sw nw nw 6-13-15w	*	3440
Mid-West Exploration Co., Witt 33, se sw se 4-14-15w	*	3297
Stearns & Streeter, Mitchell 1, se c 6-15-14w	*	3390
SEDGWICK COUNTY—		
Derby Oil Co., Rimel 1, nw ne ne 30-27-2e	1601	3236
WOODSON COUNTY—		
Henderson et al, Wilhite 2, c n½sw 14-26-13e	¶¼	690
Sheedy et al, Reed 1, sw se sw 26-23-14e	*	1642

OKLAHOMA

CADDO COUNTY—		
Magnolia Pet. Co., Lackey 6, ne nw nw 11-5-9w	700	3970
Lackey 3, nw ne nw 11-5-9w	235	3939
Noble-Olsen Drilg. Co., Rowe 4, sw se ne 36-6-10w	490	3380
English Drlg. Co., Curtis 1, sw c ne 26-6-10w	15	2204
CARTER COUNTY—		
Wirt Franklin Pet. Corp., Carpenter-Morris 5, sw nw se 11-2s-3w	130	3953
Hooks 2, sw nw ne 24-1s-3w	1300	2090
Trevelyn Oil Co., Mitchell 3, ne sw se 24-1s-3w	1200	2347
Magnolia, Spigner 3, ne c nw 24-1s-3w	410	2210
Hooks 2, se sw ne 24-1s-3w	1455	2095
COTTON COUNTY—		
Shasta Oil Co., McMillan 1, c se se 2-4s-13w	*	2505
LINCOLN COUNTY—		
Tom Slick Oil Co., Grof 1, nw c se 13-14-3e	*	5115
MUSKOGEE COUNTY—		
F. L. Beam et al, Begum 1, ne c se nw 20-15-18e	¶3½	1335

LOW COST



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Fort Worth, Texas

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Artesia, New Mexico

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Co., 228 South Central Ave.,
Los Angeles, California

Export Office: 150 Broadway,
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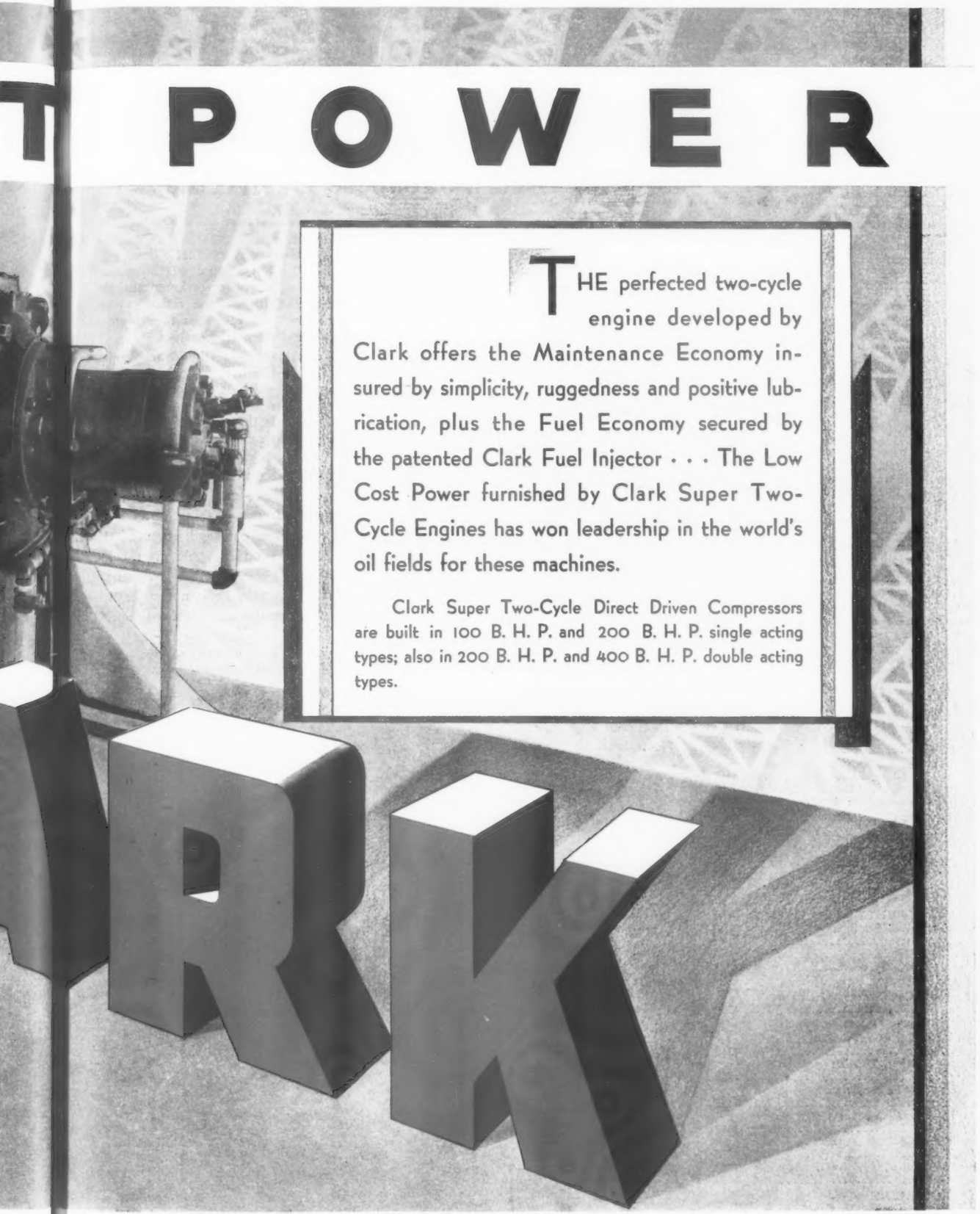
New York

POWER



THE perfected two-cycle engine developed by Clark offers the Maintenance Economy insured by simplicity, ruggedness and positive lubrication, plus the Fuel Economy secured by the patented Clark Fuel Injector . . . The Low Cost Power furnished by Clark Super Two-Cycle Engines has won leadership in the world's oil fields for these machines.

Clark Super Two-Cycle Direct Driven Compressors are built in 100 B. H. P. and 200 B. H. P. single acting types; also in 200 B. H. P. and 400 B. H. P. double acting types.

RK

Company, Well and Location	Depth	Initial Production Bbls.
Babcock Bros., Barnett 9, c nw ne 8-15-15e	25	1647
J. R. Parks, Roberts 2, ne c nw nw se 15-15-18e	*	2065
Ethel Corp., Charles 2, sw ne sw 6-15-15e	*	1157
OKFUSKEE COUNTY—		
Sunray Oil Co., Wilson 2, ne nw sw 22-12-11e	15	3500
Sheldon & Staples, Wilson 1, se c ne 21-12-11e	400	3472
OKLAHOMA COUNTY—		
Skelly Oil Co., et al, Ainsworth 1, se c sw ne se 10-11-3w	3760	6608
Ainsworth 2, se c ne se 10-11-3w	4530	6613
Ainsworth 3, ne c nw ne se 10-11-3w	2665	6612
Ainsworth 4, ne c se 10-11-3w	6480	6573
Tom Slick Oil Co., Frost Heights 4 ne se se 10-11-3w	5100	6531
I.T.I.O., Handl 1, cnl nw sw sw 11-11-3w	2722	6610
Eacock 2, sw nw ne 11-11.3w	3079	6569
Eacock 1, nw c ne 11-11-3w	2106	6540
Tom Slick Oil Co., I.T.I.O. et al, Dennis 1, ne se se 11-11-3w	¶190-7328	6538
I. T. I. O., Trosper-Hughes 1, se ne se 11-11-3w	10582	6497
Cromwell-Franklin Oil Co., Trosper-Park 21, nw c 13-11-3w	24516	6390
I. T. I. O., Carrico 2, ne sw nw 14-11-3w	4930	6580
Farley 4, ne nw nw 19-11-2w	13119	6411
Ensell 6, sw c ne, 23-11-3w	3666	6581
Peterson 7, sw se sw 25-11-3w	6021	6621
Coline Oil Co., Clauer 15, sw ne se 25-11-3w	4211	6420
Clauer 13, (owdd) ne nw se 25-11-3w	1005	6433
Skelly Oil Co., et al, Dillon 2, nw ne sw 2-11.3w	8810	6600
Tom Slick Oil Co. & W. H. Atkinson, Story 1, ne c 2-11-3w	12096	6455
Wirt Franklin, Theimer 8, se c ne se 2-11-3w	¶137-12981	6502
Anderson-Prichard Oil Corp., Pesthouse 1, nw c sw sw nw 1-11-3w	11473	6466
I.T.I.O., Theimer 6, sw c se 1-11.3w	1990	6372
Tom Slick Oil Co. & W. H. Atkinson, Baker 3, nw se nw 1-11-3w	5586	6485
Phillips Pet. Co., Trades Compress 1, sw c 36-12-3w	¶100 758	6393
I.T.I.O., Okla. State 1, ne c nw 36-11-3w	6330	6675
Marco Oil Co., Holder 1, nw c se se sw 2-11-3w	3800	6484
Mid Kansas Oil & Gas, Cornwell 1, se c sw 18-12-1w	*	6947
Magnolia Pet. Co. & Ramsey Pet. Co., Johnson 1, ne c sw 35-13-3w	*	7212
OKMULGEE COUNTY—		
C. D. Burns, Anderson 17, ne c nw ne 35-14-14e	2	1345
D. M. Logan, Perryman 2a, ne c se se 31-15-13e	¶3	2090
OSAGE COUNTY—		
Link Oil Co., 7, ne sw sw 34-25-9e	*	2096
PAWNEE COUNTY—		
Geraldine Oil Co., Edminston 8, csl n½ sw 30-21-9e	5	1102
Pawnee Oil & Producing Co., Fee 1a, se sw se 23-20-7e	*	2871
PAYNE COUNTY—		
Mulberry Oil Co., Sharrum 7, nw c 5-17-4e	800	4202
POTTAWATOMIE COUNTY—		
Standard Drilling Co., Townlot 1, se sw nw 8-9.5e	70	4318
Obermeyer & King, Townlot 1, ne se nw 8-9-5e	450	4360
Gwin Drilling Co., Townlot 1, se c nw sw nw	315	4365
Gwinn Drilling Co., et al Gregg 1, se c sw 23-6-3e	250	3468
Empire O&R, Alfrey 1, ne c se 7-9-5e	*	4372
McEwen & Walker, Townlot 1, se sw nw 8-9-5e	*	4420
SEMINOLE COUNTY—		
Deep Rock Oil Corp., Douglas 1, se sw ne 30-8-8e	140	3300
The Texas Co., Eliza 1, ne nw se 19-7-8e	¶30	2895
Carter Oil Co., Campbell 6, se nw sw 20-9-6e	685	4241
Gypsy, Payne 10, nw se ne 5-7-7e	120	3217
Pure Oil Co., Ashby 1, se c ne 22-7-5e	120	4210
Magnolia Pet. Co., Billington 1, ne se nw 29-6-6e	1050	2872
Watt et al, Gilbray 1, se c ne 4-8-8e.	*	4361
Superior Oil Co. & Darby Pet. Company, Noble 2 nw se nw, 15-9-6e	*	3636
Magnolia Pet. Co., Ground 4, nw se nw 23-9-5e	*	4372
TULSA COUNTY—		
R. E. Downing et al, Allen 1a, sw c ne ne ne 32-17-14e	5	1380

'Ever Used a Japanese Devil-Pole?

HERE is pictured a real safety-first effort—and it worked! You'd never guess it, but it may be said to represent tornado, employees indemnity and public liability insurance wrapped into one.

Back in 1901 Frank D. Williams, now president of the National Transit Company and the National Transit Pump & Machine Company, Oil City, went to Japan to superintend the building of a pipe line.

There were plenty of accidents and other grief attendant—in fact, more than could logically have been expected. Finally, one day, a committee of native workmen approached Mr. Williams and explained what all the trouble was.

The devils were at work, and unless something was done to molify them, there would be the devil to pay.

The solution to the trouble, the committee explained, was to erect a devil pole which would inform all devils large and small that the Japanese workmen and the foreigners working on the refinery were not bad scouts—in fact that they were a bunch of good devils themselves.

So Mr. Williams gave them the wooden pole, furnished other material and up went the devil pole. It is pictured above. There were streamers, however, to tell all sundry devils that if they would keep hands off, it would be appreciated, or something to that effect.

The night after the pole went up there was a tremendous storm. It played havoc all around, but not a thing on the refinery proper was damaged, some of the paper streamers on the pole even being left intact.

Mr. Williams says he is not superstitious, but he says the story is a true one.

Japanese Devil Pole

IN THE HOBBS AREA

Superintendents, contractors, tool pushers, drillers and rough necks are all agreed that Reed tools are preferable.

The Type 31 Rock Bit cuts faster and makes more hole per set of cutters.

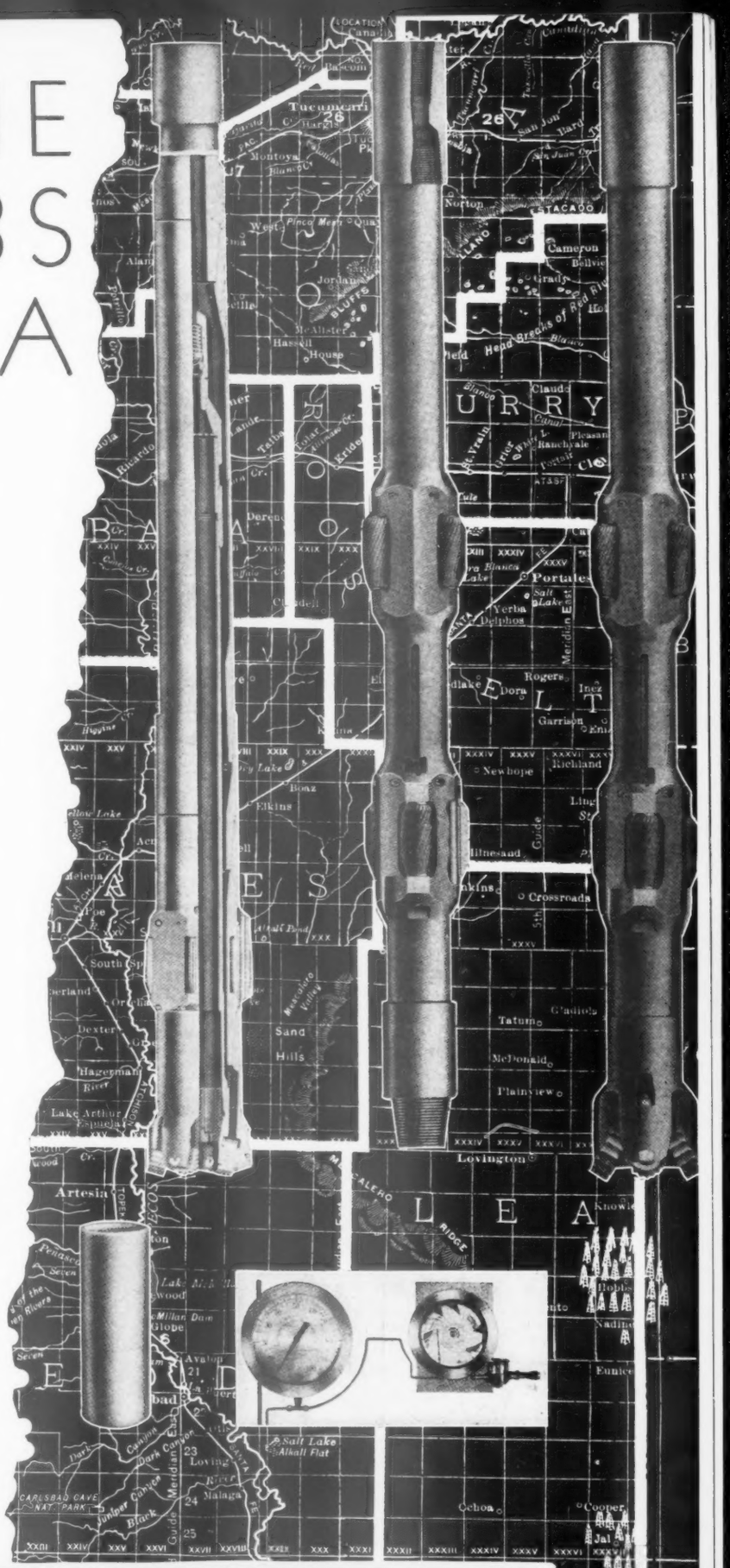
The Type 31 Double Three Point Reamer keeps the hole round and full gauge; the walls of the hole in good shape and the hole absolutely perpendicular. (Many contractors use them in tandem.)

The Reed Rock Core Bit can be depended upon for formation samples regardless of depth and in all formations from chalk to the hardest of lime stone or pyrites.

With Martin-Decker Automatic Recording Weight Indicators on the job, a positive record of hourly operation is kept.

All these tools taken together assure more hole in less time, at a lesser footage cost.

Standardize on Reed products.



REED ROLLER BIT CO

HOUSTON, TEXAS - - - LOS ANGELES, CALIFORNIA

NORTH LOUISIANA

Company, Well and Location	Depth	Initial Production Bbls.
BOSSIER PARISH—		
O. L. Hickman, Bain 4, 31-23-11	*	3160
Magnolia Pet. Co., Matlock 2, 25-23-12	*	3188
CADDO PARISH—		
Bayou State Oil Corp., Barr 3, 30-22-15	20	1072
RICHLAND PARISH—		
Palmer Corp., Noble 1, 25-16-5e	¶ 28	2450
Southern Carbon Co., Thomason D-1, 31-16-6e	¶ 44	2450
SABINE PARISH—		
Philp Bros., Dow 1, 31-8-12	*	2300

SOUTH LOUISIANA

Company, Well and Location	Depth	Initial Production Bbls.
EDGERLY—		
Rex Pet. Co., Hunter 12	*	5080
EAST HACKBERRY—		
Yount-Lee, Kelso Bayou State 31	2100	3910

TEXAS

EAST CENTRAL TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
VAN ZANDT COUNTY—		
Pure Oil Co., I. D. Miller 1	192	2956
W. E. Morris 1	155	2933
A. D. Clark 5	160	2942
Mrs. J. F. Cumbie 1	111	2936
Van Joint Acct., W. E. Morris 2	300	2938
Geo. Anderson et al, Sanger Bros. 1	1655	2772
Humble O&R Co., Ruth Starr Blake 2	101	2917
C. L. Clop et al, Mathews 1	*	3736
Pure Oil Co., Ella York 1	503	2459
MORRIS COUNTY—		
Leonard Pet. Co., P. H. Staggers 1	*	3060

PANHANDLE

Company, Well and Location	Depth	Initial Production Bbls.
CARSON COUNTY—		
Empire Gas & Fuel Co., S. B. Burnett 26	¶29	2563
Red River Gas Co., Lee Bivens 4	¶20	2697
Texas Int. P. L. Co., A. F. Bennett 1	¶9	2854
GRAY COUNTY—		
Lefors Pet. Co., Shaw 4	¶4	2680
Lefors Pet. Co., Wilson 1	*	2882
Cockrell-McIlroy, Castleberry 7	596	3287
Sailor 4	364	3220
Danciger O&R Co., Bradford 2	¶35	2668
WHEELER COUNTY—		
Johnson et al, Hicks (Hall) 2	¶16½	1920
Prince & Adams, Burchan 3	*	....

CENTRAL WEST TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
LYNN COUNTY—		
Geo. McCamey et al, C. O. Edwards 1	*	5284
EASTLAND COUNTY—		
McAlester O. Co., et al, Exall 1	5	1923
CALLAHAN COUNTY—		
Beams et al, Jackson 2	15	1192
COLEMAN COUNTY—		
Arcadia O. & R. Co. et al, Colson 1	223	1577
Shield-Pierce et al, Martin 1	*	1358
Breeding et al, Barker 1	*	704
COMANCHE COUNTY—		
Lone Star Gas Co., Dunn 1	¶2	2865
J. E. Whitesides, Whitesides 1	*	2766
PALO PINTO COUNTY—		
Lone Star Gas Co., Watson 1	¶¼	4519
Wickens et al, Rings 1	*	....
YOUNG COUNTY—		
Long et al, State Land 2	500	2500
Moncrief et al, R. R. Rt. of Way 1	*	3865
Producers Sup. & T. Co., McCluskey 7	5	2210
Slick & Knox, Robertson 1	¶¼-50	4025
Akin & Rayzor, Deithich 1	20	1102
Ard & Son, Terrell Est. 2	*	740
Arkansas F. O. Co., Jeffrey 1	*	955
Chancellor, W. P., True School Dist. 1, No. 38	*	730
Chandler, Geo. B., Kilcrease 1	*	1030
Harris, Jack, Brooks 1	*	674
Hunter, T. F. et al, Bloodworth 3	30	1084
Bloodworth 4	10	1082
King R. Co. & Bullington, Graham 5	200	695
Pet. Prod. Co., Graham 1	160	694
Seitz, Roy, Finch et al 1	55	633
Staley-Wynn & Kruger, Bloodworth 2	28	1075
Willis & Terrell, Jack Rux 1 (J. Sosterick)	*	620
Wootten and Reed, Jordan 2	*	760

NORTH TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
ARCHER COUNTY—		
Bridwell Oil Co., Green 1	12	1171
R. J. Brown Webb 1	*	abn
Ellzey & Crowell, Hayter 1	*	1406
Golding & Cochran, Kunkel 7	7	1144
King & Hays, Morehead Est. 1	*	1130
S. Kruger et al, Lanster 2	18	1200
C. E. Litchfield, Richardson 1	*	1216
CLAY COUNTY—		
Mid-Continent Pet. Corp., Stine et al 7	30	1759
COOKE COUNTY—		
Hoffer Oil Corp., Hess 1	8	740
MONTAGUE COUNTY—		
United P. & Pet. P. Co., Howard 1	*	1806
WICHITA COUNTY—		
Arkansas G. & F. Co., Kemp and Kempner 32	5	1672
Frank Baldwin, Honaker 1	*	1050
Jno. O'Neil, Honaker 3	6	1000
WILBARGER COUNTY—		
Lewis Prod. Co., 10	*	1836

WEST TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
ECTOR COUNTY—		
Cosden Oil Co., University 5-B	518	3672
Sunray Oil Corp. & Llano Oil Co., E. J. Jones 1	122	3823
TOM GREEN COUNTY—		
Ellis et al, Lewis 3	*	1198
PECOS COUNTY—		
World Oil Corp., University 1-D	30	1746
VAL VERDE COUNTY—		
A. Blume, J. P. Yoas 1	*	....

SOUTH TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
DARST CREEK—		
Magnolia Pet. Co., Richburg 4	2000	2295
Simms Oil Co., Manford 4	1000	2217
WEBB COUNTY—		
Washington-Texas Oil Co., Barnsley 1	¶ 30	2305
South Texas Prod. Co., Yeager-Stroman 1	¶ 6	2075
ZAPATA COUNTY—		
O. W. Killam, Cuellar 26-B	75	1558
W. R. Shankle, Trevino 7	100	1275
Guittierrez 3	100	1255

EAST TEXAS

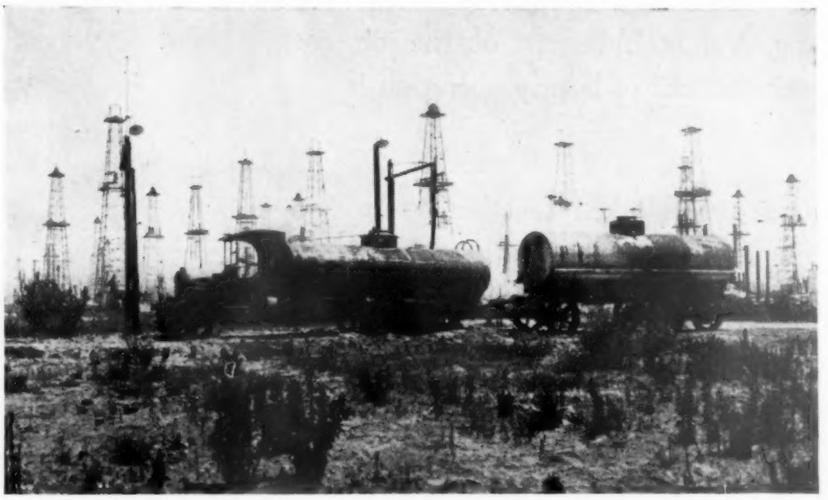
Company, Well and Location	Depth	Initial Production Bbls.
PANOLA COUNTY—		
Texas Co., G. W. Brumble 11, E. F. Mitcheson sur	¶ ¾	2350

TEXAS GULF COAST

Company, Well and Location	Depth	Initial Production Bbls.
BATSON—		
East Batson Oil Co., Gulf 1	6	520
ESPERSON—		
Cranfill-Reynolds Co., Moores Bluff Corp. 4	300	2310
Vajdak 1	15	7386
HULL—		
Republic Prod. Co., Dolbear 130, dd	60	2440
HUMBLE—		
Cezeaux & Martin, Cherry-Webb 1	*	5070
NORTH DAYTON—		
Victor Oil Co., Gulf Fee 2	500	5065
PETTUS—		
Cosden Oil Co., McKinney 4	15	3693
Grayburg Oil Co., Kimball 3	*	4252
E. S. Price et al, Laura Weiss 1	¶15	4424
Simms Oil Corp., Holzmark 1, J. A. York sur. 333	¶35	3552
Sun Oil Co., Barnett 1	¶30	3629
Union Producing Co., Ray 19	400	3929
Ray 24	¶15	2870
REFUGIO—		....
Moody-Seagraves Prod. Co., Mission-O'Brien 2	75	5724
Saxet Oil Co., Kay 1	700	5488
Ryals 2	200	6465
Clint Heard 12	*	6442
Houston Oil Co., West 1, Blk. 67	25	6397
Rose Lambert 2	625	5890
SALT CEDARS—		
The Texas Co., Jackson 1, T. & N. O. Sur, Sec. 17, Chambers Co.	*	5010
SARATOGA—		
Rio Bravo Oil Co., Cotton A-90	25	530
SPINDLE TOP—		
Yount-Lee Oil Co., McFadden 25, dd	50	2900
WEST COLUMBIA—		
Premier Oil Co., T. L. Smith 1	35	3250

NEW MEXICO

Company, Well and Location	Depth	Initial Production Bbls.
HOBBS AREA—		
Amerada Pet. Corp., Grimes 2-B State	¶2¼-1749	4207
Empire G&F Co., C. Fowler 2	¶4-1425	4201
Gypsy Oil Co., Warren Graham 1	4406	4225
W. D. Grimes 5	¶4½-5785	4182
Humble O. R. Co., Bowers 5-A	18,528	4215
Shell Pet. Corp., H. D. McKinley 5	¶5-5702	4200
Shell Pet. Corp., State 4-A	6156	4175
Texas Co., McKinley 1	¶5-6864	4185
Skelly Oil Co., Fowler 1	4608	4215
Tidal Oil Co., Hardin 1	7808	4205
Shell Pet. Co., McKinley 6	11,404	4200
Midwest Refg. Co., State 4, Sec. 4	2786	4190



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UNDER PERFECT CONTROL

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Many millions of barrels of oil find their way from the oil fields to the refineries and many millions of cubic feet of gas are distributed to distant points through pipe lines controlled by Darling Gate Valves.

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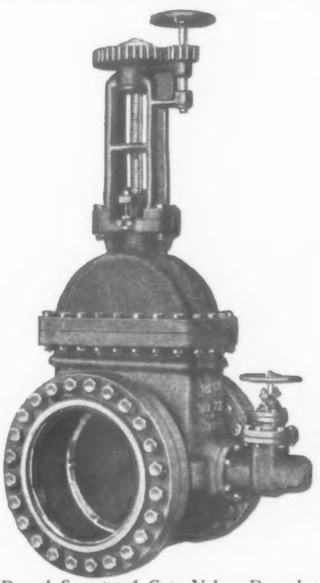

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DARLING
GATE VALVES

WILDCATS FROM ALL SECTIONS

CALIFORNIA

Company, Well and Location	Depth	Initial Production Bbls.
ROSECRANS—		
Tri-State Pet. Corp.'s No. 1	*	5030
PUENTE—		
R. C. Rucker's Grazide 1	*	3655

ATHENS—McKeon Oil Co.'s No. 1, lcn.

COMPTON — Central Heights Oil Corp.'s Veach 1, making test, td 5095 ft. Don L. Francis' No. 1, 6⅝-in cas cmt 500 ft, td 550 ft.

DOMINGUEZ—Tenacity Oil Co.'s Del Amo 1, dr 8572 ft.

FULLERTON — Standard's Bastanchury 1, coring shale and sand 6825 ft.

HERMOSA BEACH—California-Ventura Oil Co.'s Holston 1, pumping 40 bbls 20 gravity oil, td 3390 ft; Sadler 1, rig.

PUENTE—Union's Sansinena 11, bailing water and oil, td 4810 ft.

MONTEREY PARK—Celito Oil Co.'s Jepson 1, dr out cmt and co 5275 ft.

NEWHALL — Consolidated Oil Co.'s Hammond 1, dr shale 2165 ft. Dudley-Newhall Syn.'s No. 1, dr shale 1228 ft. Southern California Drilling Co.'s Needham 4, dr oil sand and shale 2025 ft. National Securities Co.'s No. 1, lr shale 1219 ft.

NEWPORT—Standard's Irvine 1, dr shale 1955 ft.

PLAYA DEL REY — West Port Oil Co.'s No. 1, co 1820 ft after blowout. Hollywood Synd.'s No. 1, lcn. Olympic Oil & Realty Co.'s No. 1, dr shale 1515 ft.

POMONA—Lamona Oil Ass'n's No. 1, dr granite 900 ft.

PUENTE HILLS—Arden Oil Co.'s Bidart-Rowland 1, dr gray sand 2535 ft. Bardeen Oil Co.'s Didier 1, dr gray sand 4620 ft. Rio Hondo Pet. Co.'s Rowland 1, sr to cmt 8⅝-in cas, td 3450 ft, oil sand and shale. Western Gulf's Diamond Bar 1, sdtr cas 6595 ft.

SAN FERNANDO—Shell's Andrews 1-1, dr 4820 ft.

SANTA FE SPRINGS—L. S. Hartmand's Campos 1, dr sand 4322 ft. Union's Orchardale 1-1, dr shale 4500 ft.

SAN JUAN CAPISTRANO—Okay No. 2's Foster 2, dr gray sand 4350 ft.

WILMINGTON — Rio Grande's Watson 1, fsh for drill pipe, td 6297 ft.

NORTHERN CALIFORNIA

Company, Well and Location	Depth	Initial Production Bbls.
TERRA BELLA—		
Terra Bell Drilling Co.'s Keen 1, 34-22-27	*	1243

KERN COUNTY

BELRIDGE—General Pet.'s Berry 1, 30-28-21, rig. Richfield's Belridge 1, 22-27-20, dr shale 4606 ft. Rio Grande's Garcia 1, 18-28-22, fsh for iron 3680 ft. Shell's Core Hole 1-A, 25-28-20, dr shale 700 ft. K. C. Wallace's No. 1, 32-29-21, dr hard gray sand 3636 ft.

BUTTONWILLOW — Nordon Oil Corp.'s Salisbury 1, sdtr iron, td 4910 ft.

COMANCHE POINT—W. W. Stabler's No. 1, 4-11-8, running 10-in cas, td 1810 ft.

EDISON—Petroleum Securities Co.'s Johnson Moss 1, 14-29-29, dr 2520 ft.

EL TEJON—J. J. Ritchie's No. 1, 33-11-19, dr hard sand 3250 ft.

McKITTRICK—Ohio's M. M. 1, 32-20-22, coring 7280 ft.

PATTIWAY—H. A. Bardeen's Ramsey 1, 10-10-23, dr gray sand 3850 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, plugged to 5745 ft, running 9⅝-in cas for test.

SHALE HILLS—Rio-Cal. Pet. Co.'s No. 1, 2-27-18, dr shale 1965 ft.

WEED PATCH—Shell's Porter-Day 1, 29-30-29, producing 120 bbls oil and water, td 5370 ft, may open up new field.

SANTA BARBARA COUNTY

CAMPBELL'S POINT — Bolsa Chica Oil Corp.'s Permit 191-1, dr hard limestone 1655 ft.

CASMALIA—Wildcat Oil and Royalty Co.'s Donovan 1, 20-10-35, fsh for drill pipe 5500 ft.

EL TORO—Shell's Fithian 1, 18-4-25, shut in 4300 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sed ment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—tracking; sp—spudding; sr — straight reaming; sd—shut down.. sdtr—side-reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on-standard rig.

GATO RIDGE—Barnsdall's Tegnazzini 1, 9-8-32, dr hard shale 3505 ft.

GOLETA—General Pet.'s More 3, dr shale and shells 1320 ft. George W. Johnson's Duncan 1, rigging up rotary, td 3970 ft.

LOMPOC—Prairie's Shyvers 1, 11-7-35, dr gray sandstone 5200 ft.

LOS ALAMOS—N. S. Wilson's Midwest 1, grading for rig.

NAPLES—J. H. Cochran's No. 1, 7-4-29, dr shale 3122 ft.

ORELLA CAPITAN—General Pet.'s Erburn 8, dr shale 707 ft; Erburn 9, lcn; Erburn 10, lcn.

POINT CONCEPCION—Standard's Garber 1, dr hard gray sand 5975 ft. Universal Consolidated Oil Co.'s Concepcion 1, 30-5-34, dr gray sand 4625 ft.

PURISIMA—Vaqueros Major Oil Co.'s Union Annex 2, dr 1920 ft; Union Annex 3, lcn.

SANTA MARIA—O. C. Field Gasoline Co.'s Norswing 1, 8-9-33, dr gray sand 5000 ft; Bradley 1, pulling 4½-in cas, td 5265 ft. Western Gulf's Bradley 1, 5-9-33, dr shale 1610 ft.

VENTURA COUNTY

HOPPER CANYON—Rio Grande's Lankershim 1, 13-4-19, sr 300 ft, td 1820 ft.

RINCON — Chanslor-Canfield Midway Oil Co.'s Hobson A-2, 23-3-24, completed with initial production of 275 bbls 23.7 gravity, 22 per cent cut oil, td 7480 ft.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Calabasas 1, 18-1-17, fsh for drill pipe, td 5670 ft.

SANTA PAULA—Empire Oil Co.'s Steen 4, 13-4-21, perforating 6¼ in cas to start upper zones at 1200-1300 ft, td 3840 ft. California Republic Pet. Corp.'s Darling 1, 23-4-21, rigging up rotary. George C. Thompson's No. 1, 15-4-21, dr shale 1820 ft.

SESPE—Superior Oil Co.'s Kirtlan 1, 15-4-21, plugged to 320 ft, re-dr 400 ft.

SOMIS—Shell's Everett 1, dr shale 3120 ft.

VENTURA—Prairie's Sexton 1, 30-3-22, dr shale 7188 ft.

MISCELLANEOUS

FRESNO COUNTY—Ohio's Welch-Brix 1, 8-21-15, dr shale 4333 ft. Associated's Mitchell 1, 22-21-15, new lcn.

KINGS COUNTY—J. E. O'Donnell's No. 1, 7-23-20, sd 4310 ft. Friend & Fiske's No. 1, 11-23-19, rig.

MENDOCINO COUNTY — Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 4500 ft.

SAN LUIS OBISPO COUNTY—F. J. Potter's No. 1, 1-29-12, rigging up. Paso Robles Synd.'s Emerick 1, 34-27-11, fsh for tools 3910 ft. Pismo Dome Oil Co.'s Pricco 2-A, 5-31-13, dr shale 2707 ft. Texas Pacific Coal and Oil's No. 1, 25-32-14, co 4000 ft.

TULARE COUNTY—Big Four Drilling Co.'s No. 1, 29-23-27, re-dr 4300 ft. Ford Alexander's No. 1, 34-22-27, dr out cmt 1000 ft. Buck & Stoddard's No. 1, 2-23-27, rig. Cummings Pet. Corp.'s No. 1, 27-22-27, rig. Colton Drl. Co.'s Hinshaw 1, 34-22-27, dr shale 725 ft. Campbell Oil Co.'s No. 1, 22-22-27, rigging up. Hudson & McLoney's No. 1, 7-23-28, sp, Hagerty & Vaine Co.'s Hinshaw 1, 7-23-28, lcn. William Hallock's Fee 1, 34-22-27, will complete at 1090 ft. Jaques Oil Co.'s Hinshaw 1, 34-22-27, lcn. Jennings Synd.'s McMasters 1, 8-23-28, rigging up rotary. Kern Pet. Co.'s No. 1, 34-22-27, rigging up. Paul M. Lewis' No. 1, 15-22-27, dr shale 640 ft. Larson Oil Co.'s Best 1, 11-23-27, dr shale 750 ft. Mills & Wilson's No. 1, 35-22-27, dr out cmt, td 913 ft. Rayatt Oil Co.'s Hinshaw 1, 34-22-17, dr hard sand 426 ft. Terra Bella Drilling Co.'s Rusling 1, 34-22-27, will test at 924 ft. Terra Bella Oil Co.'s Gardiner 1, 35-22-27, pumping 35 bbls oil and water, td 918 ft. Turn & Campbell's Nevins 1, 34-22-27, rigging up.. Western Oil & Exploration Co.'s Gardiner 1, 35-22-27, qill put on pump, td 1020 ft.

YOLO COUNTY—George F. Getty's Guinda 1, 23-12-3, dr sandy shale 875 ft.

OKLAHOMA

WOODS COUNTY—T 27n R 16w Sec. 33, Sinclair, Share 1, c ne sw, show oil 7137-38½ ft hfw 7160 dr 7226 ft hfw.

ALFALFA COUNTY—T 27n R 11w Sec. 12, Smith Bros., Forbes 1, ne c se nw nw td 1420 ft sd.

KAY COUNTY—T 27n R 2e Sec. 17, Blankenship et al, Hansen 1, sw nw sw; water 3612-16 ft PB & shot 10, 20, 40 qts at 3587 ft to 3597 ft pumps 20 bbls fshg job.

HARPER COUNTY—T 26n R 24w Sec. 15, Sinclair, Howell 1, c sw sw, td 8590 ft PB 6700 ft shot 5 qts 5300-5340 ft 7Mgas.

GRANT COUNTY—T 26n R 5w Sec. 25, Bu-Vi-Bar et al, Hurst 1, c sw, rust 4775 ft.

KAY COUNTY—T 26n R 1w Sec. 32, Boucher et al, Jefferson 1, ne c sw, dr 525 ft.

HARPER COUNTY—T 25n R 20w Sec. 12, Empire, Bruce 1, sw c ne ne sw, dr 5935 ft.

WOODS COUNTY—T 25n R 15w Sec. 10, Bu-Vi-Bar et al, Fee 1, se c sw, sd 6104 ft.

GRANT COUNTY—T 25n R 4w Sec. 22, Cowden, Vollner 2, ne c se ne sw, sd 5640 ft.

ALFALFA COUNTY—T 24n R 11w Sec. 14, J. V. Bailey et al, Acres 1, c sw ne, sd 4660 ft, woc.

GARFIELD COUNTY—T 24n R 6w Sec. 9, Pulse & Beamer et al, White 1, se c nw, dr 5720 ft.

WOODWARD COUNTY—T 23n, R 17w, Sec. 23, Transcontinental & Prairie, Wilbur 1, ne c sd 7425 ft. T 21n R 19w, Sec. 15, Burgoyne Bros., Merklin 1, sw c se ne, sd 1910 ft.

NOBLE COUNTY—T 21n R 1e Sec. 12, Barnsdall et al, Minch 1, nw c sw, dr 365 ft.

BLAINE COUNTY—T 19n R 10w Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, td 3730 ft sd.

LOGAN COUNTY—T 18n R 3w Sec. 33, Healey et al, Quier 1, se c sw, sd 3970 ft. T 17n R 4w Sec. 34, Eason Oil Co., Katchor 1, sw ne sw td 4180 ft rep rig. T 17n R 2w Sec. 24, Slick, Ramsey & Prairie, Jones 1, c se nw, dr 3990 ft. T 17n R 1e Sec. 22, Slick & Prairie, Simms 1, ne sw se, dr 4010 ft.

KINGFISHER COUNTY—T 16n R 7w Sec. 6, Gault Brown, Boch 1, c nw se (owdd) cored 6022 ft cement crooked hole.

LOGAN COUNTY—T 16n R 1w Sec. 33, Slick & Prairie, Wright 1, c nw sw, dr 3920 ft.

KINGFISHER COUNTY—T 15n R 5w Sec. 23, Slick & Prairie, Morgan 1, c nw ne, dr 5518 ft.

PAWNEE COUNTY—T 23n R 5e Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 22n R 3e Sec. 26, Wentz Oil Corp., Lillie 1, se sw ne, dr 2100 ft. T 20n R 5e Sec. 1, Flynn, Morgan et al, Freeman 1, nw c, ur 12" 1000 ft. T 20n R 5e Sec. 22, J. M. Scott et al, Jones 1, sw c ne, dr 3020 ft.

LINCOLN COUNTY—T 17n R 2e Sec. 28, Thurman, Deaner et al, Stufflebeam 1, ne c sw, Wilcox 4925-30 ft wtr plugging.

LINCOLN COUNTY—T 14n R 6e Sec. 5, Atlantic Oil Prod. Co., Ryan 1, se c nw, dr 3990 ft. T 13n R 4e Sec. 2, Magnolia, Winship 1, ne c sw, wx 5247-60 ft cored—water.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 26, Henry Oil Co., Harjo 1 nw c dr 3940 ft.

T 12n R 10e Sec. 3, Sheppard et al, Sheppard 1, se nw sw, water 3690 ft sd.

MUSKOGEE COUNTY—T 11n R 19e Sec. 21, E. Mills et al, C. J. Martin 1, nw c se, sd 1001 ft.

PITTSBURG COUNTY—T 9n R 16e Sec. 32, Pattison et al, McDuff 1, sw c nw se, dr bridge 5500 ft. T 8n, R 14e, Sec. 14, C. D. Cannady, Smith 1, nw c rig. T 7n R 13e Sec. 18, Apex Oil Co., Walker 1, nw c se, spudding.

OKLAHOMA COUNTY—T 14n R 3w Sec. 32, Mid-Kansas, Messer 1, sw c, TS 6495 ft dr 6715 ft show oil est 2Mgas. T 13n R 3w Sec. 35, Magnolia-Ramsey, Johnson 1, ne c sw td 7212 ft PB shot 30 qts 6500 ft shot 30 qts 6250 ft D&A. T 13n R 3w Sec. 17, Slick & Prairie, Dills, c se nw, sd 6630 ft. T 12n R 4w Sec. 17, C. F. Cuniff, trustee, St. Joseph 1, sw c ne sw se sd 6700 ft. T 11n R 2w Sec. 3, Ryan Consol. Co., Lawton 1, ne c nw, td 6902 ft woc.

CLEVELAND COUNTY—T 6n R 1e Sec. 20, Harris & McNeal, Corbett 1, c sw ne, td 6518 ft, bailed small show oil sd.

OKFUSKEE COUNTY—T 11n, R 8e, Sec. 11, Carter et al, Keys 1, sw ne sw, dr 3321 ft.

POTTAWATOMIE COUNTY—T 10n R 4e Sec. 10, Shell, Baker 1, nw c se, lcn.

SEMINOLE COUNTY—T 10n R 6e Sec. 19, Bunte et al, Bruner 1, se c nw, lcn.

HUGHES COUNTY—T 9n R 12e Sec. 29, Cannady, Kanard 1, nw c sw, td 4468-4506 ft hfw PB 3540 ft sd.

POTTAWATOMIE COUNTY—T 8n R 3e Sec. 3, Texas, Knight 1, sw c se td 4638 ft centg 8 in csg. T 8n R 4e Sec. 11, Lippa et al, Helmerich 1, ne c nw, co 3610 ft. T 7n R 3e Sec. 19, Droppleman et al, Fundis 1, se c ne, rur. T 6n R 4e Sec. 30, Deep Rock, Marshall 1, sw c dr 3770 ft. T 6n R 5e Sec. 5, Robinson et al, Croush 1, nw c sw, lcn.

SEMINOLE COUNTY—T 6n R 7e Sec. 9, Neal & Milton, Thomas 1, nw c ne sw, cellar. cellar.

ROGER MILLS COUNTY—T 13n R 21w Sec. 10, Richfield, Hiatt 1, se c, rig. T 12n R 24w, Ses. 23, Bucy & Stone, Williams 1, nec sw, sd 2243 tt.

BECKHAM COUNTY—T 10n R 22w Sec. 29, J. F. Cuniff et al, Brower 1, c nw, sd 3793 ft.

CANADIAN COUNTY—T 10n R 6w Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

CADDO COUNTY—T 9n R 13w Sec. 18, J. J. Wright et al, Boys 1, ne c, lcn.

BECKHAM COUNTY—T 8n R 22w Sec. 20, Carson et al, Denby 1, sw se ne, dr cement 1625 ft.

GREER COUNTY—T 7n R 22w Sec. 1, Good & Dowell, Cliffel 1, nw c, sd 1265 ft. T 7n R 21w Sec. 23, H. A. French et al, Murphy 1, sw nw se, sd 400 ft. T 6n R 24w Sec. 17, I. T. I. O. et al, Fee 1, c ne, sd 2485 ft.

CADDO COUNTY—T 6n R 11w Sec. 24, Simms Pet. Co. et al, 1, se c nw, rig.

HARMON COUNTY—T 4n R 24w Sec. 17, Harmon-Tex Oil Co., Headley 1, ne c, ur 2380 ft.

COMANCHE COUNTY—T 3n R 9w Sec. 3, Okla. Nat. Gas Co., Doebel 1, ne c sw sw sw sd 1450 ft.

COTTON—COUNTY—T 3n, R 13w, Sec. 2, Shasta Oil Co., McMillan 1, c se se, D&A 2505 ft td.

HUGHES COUNTY—T 5n R 10e Sec. 30, A. V. Erwin, Jones 1, se c ne, sand 4270-75 ft rust. T 5n R 11e Sec. 15, J. J. Wright, Roberts 1, se c sw, 2Mgas 915-18 ft hfw sd 1745 ft.

GARVIN COUNTY—T 4n R 3e Sec. 10, C. R. Obermeyer, Stricklin 1, ne c sw, sand 2747-65 ft, 200 ft O. I. H. td 2825 ft. T 3n R 4w Sec. 5, McMin & Arrowsmith, Carson 1, ne c nw, sd 3026 ft.

COAL COUNTY—T 3n R 9e Sec. 26, Blackwell, Gumm 1, nw c dr 3890 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, nw c sd 80 ft.

CARTER COUNTY—T 4s R 2e Sec. 32, Tex-Okla. Dr. Co., Anderson 1, se ne se, dr by td 2580 ft.

LOVE COUNTY—T 6s R 3w Sec. 20, Harry Hobbs, Steele 1, sw c ne ne sw, sd 3130 ft.

BRYAN COUNTY—T 6s R 7e Sec. 8, Geo. L. Pace, Hicks 1, sw c nw, dr 1200 ft. T 6s R 7e Sec. 14, W. A. Johnson, Ussery 1, se c, sd 325 ft. T 6s R 9e Sec. 35, O. P. Bush, Commerce Trust 1, ne c sd 600 ft.

MONTANA

BIG HORN—Embar Dr. Co., 21-6s-36e, resum 3056 ft to dd.

CASCADE—Andover Oil Co.'s Floweree 1, se 20-21-2w, stand 800 ft.

CHOTEAU—Texas Pacific, Lehnfelt 1, rigging up.

FERGUS—Melton Corp.'s 1, se 24-21n-17e, dr bel 2700 ft. Northern States Oil Co., Woodward 1, sw 20-14n-24e, spdd.

GLACIER—Glacier Oil Co.'s Omsberg 1, nw 35-35.6w, td 1820 ft, repair boiler. Texas Production Co.'s 1, 13-35n-6w, ur 10-in to carry td 2470 ft. Fulton Pet. Corp.'s Blackfeet 1, ne 28-36n-12w, dr 350 ft in 21-in hole. O'Neil's Michaelson 1, se 28-36-5w, shut in and skd rig. B. & H. Oil Co.'s Haines 1, se 2-34-6w, wait for pipe 400 ft. Jeffries-Haire-Dawson's 1, ne 7-31-12w, dr 1300 ft.

GOLDEN VALLEY—Golden Valley Oil Co.'s 1, se 28-6-22, dr bel 1200 ft. Texas Pacific's 1, sw 21-8s-21e, location for rotary test.

LIBERTY—Northland O&G Co.'s Yurman 1, 36-33n-6e, dr 2450 ft. Sunburst O&R Co.'s McLaren 1, se 9-37-6e, dr 2830 ft. Utopia Oil Co.'s Eleanor Assn 1, sw 11-33-6e, carry 8-in at 2810 ft. Western National Gas Co.'s H. Brown 1, nw 20-37-4e, rigging.

MUSSELSHELL—Minnesota - Flatwillow's Ivanhoe Dome 1, 7-11-31, set 15-in at 440 ft and dr ahead.

PETROLEUM—Minnesota - Flatwillow's 2, 5-13n-25e, rig burned, td 1840 ft. Oregon Flatwillow's 1, 3-13n-26e, co to 200 ft.

PONDERA—Miller Bros.' Bruins 1, nw 17-28n-1w, rig up. Oil Well Dr. Co.'s Van Daele 1, ne 35-30-38, fish tools 4215 ft.

ROSEBUD—Prairie's 1-X, 26-10-39e, run 15½-in at 1235 ft.

SHERIDAN—Sheyenne O&G Co.'s 1, nw 15-36n-53e, to res at 1400 ft.

TETON—Andover Oil Co.'s Carlson 1, ne 5-24n-4w, td 300 ft. Newman et al's Fitzgerald 1, 26-32n-12, rig up. Rocky Mtn O&G Co.'s Salmond 1, ne 4-23n-8w, resum 1750 tf. Midwest Ref. Co.'s Scott 35, ne 2-26n-6w, dr 2395 ft. Earl Oil Co., se¼ Sec. 22-22-8w, set 10-in below 2000 ft.

TOOLE—International Royalty Holding Co.'s Henry 1, se 26-35-3e, ream 10-in, total depth 2000 ft. Vantana Oil Co.'s Peterson 1, sw 22-34-4w, run cas 1967 ft. O. I. C. Gas Co.'s Wolland 1, se 11-34-2e, wait for water supply.

VALLEY—T. P. Jones' 1, nw 31-37-38e, test gas at 1090 ft.

WYOMING

BIG HORN—Westland Oil, Inc., 1, 24-54-95, gas at 510 ft. Wisconsin Holdings, 5-55-97, sd 665 ft. Yellowstone Pet. Co.'s 1, 7-57-97, oil show 4080 ft.

CARBON—Red Feather Oil Co.'s 1, 35-13-92, gas at 755 ft.

CROOK—Horth et al., se 9-56n-63w, location. Casper Pet. Synd., ne 29-51n-63w, location.

FREMONT—Texas Prod. Co.'s State 1, 36-34-96, ur 6⅝-in, td 4472 ft. P. & R.'s 1, 33-34-92, coring at 4153 ft. Yellowstone Oil Co.'s 1, 15-38-94, dr 100 ft.

HOT SPRINGS—Midwest's Weeks 8, 5-55-98, cont'd show o and g 3810 ft. Ohio's Smith 1, 8-46-99, wait for rotary 4403 ft. Gebo Con's 1, se 23-44-95, sd 1410 ft with 150 ft oil in hole.

JOHNSON—United Oil Co., 7-47-92, sd 1700 ft.

LINCOLN—Midwest's Grey's River 1, 25-37-117, dr 2480 ft. Mtn Oil Corp.'s 1, 36-25-116, cas trouble 815 ft. Wyo Prod. Co.'s 1, 14-24-113, res 370 ft.

NATRONA—Midwest's Midway 1, se 23-35-79, test at 5215 ft. Cuyler Oil Co., sw 24-36n-85w, dr 550 ft. Summit Oil Co., nw 21-33n-80w, dr 550 ft. Tarrant et al, ne¼ nw¼ Sec. 25-31-82, spdd.

NIOBRARA—West Virginia Synd., ne 7-35-62, set 12½-in at 936 ft.

PARK—Resolute Oil Co.'s 1, 17-27-101, dr 7160 ft. Cody Pet. Co.'s Danker 1, se 22-57-98, skd rig. C. M. Johnson's 1, 11-49-102, dr bel 4245 ft.

SWEETWATER—Vermillion Oil Co.'s 1, se 16-12-99, stand with 10-in cem 2650 ft.

SHERIDAN—Pfeiffer et al, 6-57-84, location.

UNITA—Park City O&G Co., nw 6-51-113, dr 1200 ft.

WESTON—Gose Synd's 1, 28-47-65, res 4800 ft. Updike et al's Fiddler Creek 1, 11-45-64, dr bel 1200 ft.

COLORADO

ADAMS—N. M. Slatt 1, se 27-25-64w, dr 2230 ft.

ARAPAHOE—McDebb Dr. Co.'s Fitzsimmons 1, 7-45-66, stand at 5692 ft. Merritt et al's U. P. 1, nw 17-5s-64w, dr 1240 ft.

ARCHULETA—Outwest Inc. Co.'s Fitzhugh 1, se 34-33n-1e, dr 520 ft.

BACA—A. R. Jones Oil & Optg Co.'s Boice Cattle 1, 22-34s-42w, dr 3680 ft.

BOULDER—Reliance Oil Co.'s Anderson 1, se 18-3n-70w, dr 1000 ft.

DELTA—Crawford O&G Co.'s McKissen 1, ne 28-15s-91w, stand 1100 ft.

DOLORES—Transcontinental's Glade 1, nw 11-41n-16w, cem 6747 ft.

DOUGLAS—Perry Park Oil Co.'s Cannon 1, nw 11-9s-59w, dr 1810 ft.

EL PASO—Utemore Syndicate's Cannon 1, nw 10-16s-66w, stand 1100 ft.

GARFIELD—Fulton Pet. Co.'s Permit 1, ne 8-8s-102w, dr 1875 ft.

JEFFERSON—Ruby Hill O&G Co.'s Bradeu 1, se 24-4s-59w, carry 6⅝-in at 3686 ft.

HUERFANO—Parker Club-Kinney Coastal's Fee 1, se 4-2s-69w, to sidetr 4116 ft. Ojo Exp. Co.'s Ojo 1, 5-29s-69w, abd 600 ft.

LARIMER—Smith et al's State 1, ne 36-12-70w, lost hole, skd rig.

LA PLATA—McGarr Pet. Co.'s Mesa 1, ne 27-33n-12w, dt 2685 ft. Detroit Oil Assn's Olbert 1, se 9-35n-12w, stand 2623 ft. Murchison Oil Co.'s Doescher 1, nw 9-33n-13w, stand 600 ft.

LINCOLN—Kelly Oil Co.'s State 1, 26-14n-57w, stadn 3415 ft.

MESA—Argo Oil Co.'s Hoel 1, ne 23-8s-104w, plugg back to 2450 ft.

MOFFATT—Vermillion Oil & Gas Synd's 1, se 23-9n-100w, stand 750 ft. Midwest's Hannawalt 24, 4-6n-92w, dr 3040 ft. Mtn Fuel Supply's State 2, Tract 37-12-100, rig. Mtn Fuel Supply's Musser 1, 5-11-97, dr 2100 ft. S. H. Keoughon et al's State 1, se 15-4n-101w, dr 2300 ft.

MONTEZUMA—Haller et al's Haller 2, 33-36n-14w, dr 765 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-7w, dr 3100 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-9s-76w, dr 1075 ft. So. Park O&G Co.'s Esche 1, ne 5-9s-76w, dt 470 ft.

RIO BLANCO—Texas Prod. Co.'s Potter 1, se 30-2n-69w, gas at 5987 ft, blow to co.

WELD—Platte Valley Pet. Corp.'s Patterson 1, se 24-6n-61w, dr 6335 ft. Eastman Oil Co.'s Steel 1, ne 14-2n-67w, dr 165 ft.

WASHINGTON—Middlemist Oil Co.'s Middlemist 1, se 14-4s-56w, stand 1260 ft.

NEW MEXICO

DE BACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, co 3005 ft.

EDDY—Lockhart et al's Parker 2-X, 3-17-30e, dr 3160 ft.

LEA—Hobbs High Co.'s State 1, 35-18s-38e, dr 3860 ft. Tidal's Coleman 1, ne 17-21s-36e, dr 4025 ft. Atlantic Oil Co.'s State 1, 6-19s-38e, sulfur water 3970 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18-9w, sd 3267 ft. Wms et al's A. T. S. F. 1, sw 19-18n-8w, dr 2280 ft. Walker Dome Oil Co.'s 1, 12-15-10, stand 1012 ft.

QUAY—Silverstein et al's 1, 29-12n-33e, stand 85 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pet. Co.'s Govt 1, se 14-30n-7w, dr 515 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, stand 1750 ft. Southern Union Gas Co.'s Day 1, se 20-28n-10w, dr 1950 ft. Childers Dr. & Pr. Co.'s Westwater 2, nw 23-31-16w, sd 2525 ft. Reserve Oil Co.'s Shafer 2, ne 1-21n-14w, sd 780 ft. Rio Grande Dev. Co.'s Lanier 2, 9-29-11w, stand 1380 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, rig up for Pennsylvanian test.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, nw 14-15n-16e, wait 2355 ft. Starr Oil Co.'s Adams 1, ne 25-17n-16e, 8½-in at 3217 ft. Cibola Pet. Co.'s Crown 1, se 9-13n-14e, ready to resume 320 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 21-12n-22e, wtg for cas 1200 ft.

SOCORRO—Lockhart & Co.'s Stackhouse 2, 14-3s-6e, pipe frozen 2770 ft.

VALENCIA—Rio Puerco Oil Co., N. M. Ariz. Land Co. 2, ne 13-6n-2w, compl as 400-bbl. water well. Acme Oil Co.'s N. M.-Ariz. Land Co.'s 1, 26-6-3, stand 4741 ft. Harlan et al's Harlan 1, 5-6n-2e, abd 4225 ft, skd rig.

MISSISSIPPI

RANKIN COUNTY (Jackson Dist.)—
Gulf Ref. Co., Hartfield A-1, 7-5-2e..¶50 2398

ADAMS COUNTY (Natchez Dist.)—
A. C. Glassell et al, Stowers 1, 28-8-2w . ..... * 2375

ADAMS COUNTY (Natchez Dist.)—A. C. Glassell et al's Stowers 1, 28-8-2w, dry abn in Minden beds, td 2375 ft.

ALCORN COUNTY — Alcorn Pet. Co.'s Matthews 1, 14-2s-7e, fsh junk, td 2735 ft.

CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, (formerly Fee 1) ne ne 16-15s-5e, rig up.

CHICKASAW COUNTY — Hightower & Golson's Fleming 1, 30-13-3, dr with rotary gravel heaving 1436 ft. Fleming 2, 15-13-2w, lcn abn.

HINDS COUNTY (Jackson Dist.)—Mrs. Ella Rawls Reeder's State Land 1, 25-6-1e, sd 2905 ft. Dome O&G Co.'s Elton 1, 5-4-1e, pulling cas to abn in hd gray sand, td 2805 ft. Jackson O&G Co.'s Central Cotton 1, 3-5-1e, dk; Mayes 2, 2-5-1e, set 6⅝ cas top Midway shale 2482 ft, topped Midway chalk 2581 ft, sd in chalk and shells, wo pipe 2737 ft, elev 269 ft. Love Pet. Co.'s Morton 1, 34-6-1e, dk. Love Prod. Co.'s Crisler 1, nw sw 2-5-1e, set 6⅝ cas top chalk 2468 ft, top black shale 2373 ft, elev 269 ft. Miss Tex Oil Co.'s Negro Fair Assn. 1, 28-6-1e, sd in sand and shale 1902 ft, cure titles. Tri-State O&G Co.'s Wilson 1, 23-6-1e, dk. Universal O&G Co.'s Holliday & Ross 1, 8-6-2e, ta rig moved, td 2653 ft; Sharbrough 1, 28-6-1e, set 10-inch cas 88 ft, wo. Feazel O&G Co.'s Millstein 1, 2-5-1e, topped Midway shale 2324 ft, set 6⅝ cas 2404 ft. Gulf Ref. Co.'s Crane-Lawrence 1, cent ne 26-6-1e, set 9-inch cas on bot 2352 ft. City of Jackson 1, ne se 10-5-1e, top Midway shale 2361 ft, elev 254.6 ft, dr 2362 ft. Miss. Pet. Co.'s Solvent Inv. 1, 14-5-1w, sp set 15½-inch cas 40 ft, dr shale 401 ft. Baptist Orphanage 1, se se 28-6-1e, rig up. Love Pet. Co.'s Ridgeway 1, 2-5-1e, top Midway shale 2367 ft, ds test showed gas 2460-63 ft in chalk and shells, arr set cas. Le Fleur O&G Co.'s Chadwick & Brown 1, sw nw 11-5-1e, sp. Kennedy et al's Fee 1, ne ne 34-6-1e, lcn. Love Pet. Co.'s Maley 1, se nw 15-5-1e, dk pat. Hawkeye Gas Co.'s Webster 1, ne nw 15-5-1e, bldg dk.

LAFAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rigged up wo.

MADISON COUNTY (Jackson Dist.)—Miss. Pet. Co.'s Raymond 1, set 12½-inch cas in blue gumbo 706 ft, wo cement to harden.

MONROE COUNTY (Amory Dist.)—Amory Dev. Co.'s Bcurland 1, 2-13-19, sd wo 2912 ft. Park Bowser's Cowart 1, 2-12-19, sd 85 ft. Associated Royalties' School Board 1, 16-15-17w, sd 60 ft.

RANKIN COUNTY (Jackson Dist.)—Love Pet. Co.'s Moore 1, 28-6-2e, sd 900 ft. Redmond et al's Graves 1, 12-5-1e, re-bldg dk hit by lightning. Gulf Ref. Co.'s Hartfield A-1, 7-5-2e, top Midway black shale 2290 ft, top Midway chalk 2396 ft, elev 268 ft, est 50 mil ft gas 1040 bbls. r.p., td 2398 ft. Pearl River O&G Co.'s Pate 1, 12-5-1e, top Midway shale 2331 ft, wo cas, td 2400 ft. Southern Pet. Co.'s Investment 1, 12-5-1e, set 15½-inch cas 20 ft, set 10-inch cas 375 ft, dr 400 ft. Millstein O&G Corp.'s Hartfield 1, se ne 12-5-1e, sp.

WARREN COUNTY (Vicksburg Dist.)—Henderson et al's Dornbusch 1, 8-18-15, sd with ds in hole, td 2475 ft.

WEBSTER COUNTY — Cumberland Oil Co.'s Henley 1, 15-21-11, ta 1865 ft.

WINSTON COUNTY (Louisville Dist.)—Mississippi Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, dk pat.

YALABOUSHA COUNTY (Water Valley Dist.)—J. D. Collett et al's Blackmur 1, 14-11-4w, arr abn, td 2434 ft.

ALABAMA

HOUSTON COUNTY—J. R. Sealey et al's Fee 1, 13-1n-27e, changing from cable tools to rotary, td 3100 ft.

LAUDERDALE COUNTY — P. J. McAlpine's O'Neal Hrs. 1, 8-2s-13w, dr coarse sandy lime showing sulphur water 2005 ft.

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, fsh for cas, td 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, ta 1200 ft; Fee 2, 3-18-1w, rig up wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft; Hobson Brs. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, no report.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, sd 1881 ft.

ARKANSAS

UNION COUNTY—
Sunby et al, Perdue 2, 23-16-14 .... * 3207

CHICOT COUNTY—H. R. Smith's Lytle 1, 31-18-3, sp set 10-inch cas 124 ft, dr 1156 ft.

CLEBURNE COUNTY — Cosden Oil Co.'s Donithan Lbr. Co. 1, 19-9-10, reset 8¼-inch cas 3900 ft, dr 3990 ft. Donnell et al's Fee 1, 33-11-9, sd 3150 ft.

COLUMBIA COUNTY—Sam Y. Dorfman's Merrick 1, 16-17-20, dr hard lime 1950 ft.

FRANKLIN COUNTY—Red Bank Oil Co.'s Hamm 1, 33-10-26, tested est 3 to 4 mil ft gas top sand, fsh tools, td 3750 ft (corrected depth).

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3n-19w, sd in lime repr rig, td 3750 ft.

HOT SPRINGS COUNTY—John Watkins, Tr.'s, Cunningham 1, 11-5-16, dk (formerly J. R. Cunningham's test and carried in Grant County). Cleary Bros. et al's Hinson 1, 19-4s-16w, set 15½-inch cas 20 ft, 12½ cas 294 ft, 10-inch cas 405 ft, 8¼-inch cas 700 ft, 6-inch cas 850 ft, td 865 ft.

JOHNSON COUNTY—Ark. La. P. L. Co.'s C. H. Harvey 1, ne se 14-10-24, lcn; Kelly 1, sw sw 14-10-24, sp dr 190 ft. Blackwell O&G Co.'s Wyver 1, 21-8-23, jarring out 6-inch cas 2100 ft, td 5600 ft. Conn Gables et al's Holing 1, 20-9-25, sd 2238 ft.

LAFAYETTE COUNTY—Crawford Drilling Co.'s Vaughan 1, 25-19-25, rig up.

LAWRENCE COUNTY — Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Buck Oil Co.'s Taafe 1, 25-12-32, sd 2505 ft.

LINCOLN COUNTY — B. F. Thompson, Tr's, McGehee 1, 8-8-7, rig up.

LOGAN COUNTY—M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, ur 5 3/16-inch cas 3570 ft, td 3610 ft.

MADISON COUNTY—J. W. Baxter's Hallem 1, 17-16-26, sd 540 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-15-26, set 10-inch cas 120 ft, dr 2000 ft. Lenz et al's Dale 1, 25-15-26, old hole arr deepen, td 2842 ft; Johnson 2, se sw 24-15-26, dk. East Texas O&G Dev. Co.'s Fee 1, 2-15-26, lcn. O'Mara et al's Person 1, 31-15-25, lcn. Big Hill Oil Co.'s Dean 1, nw sw 30-15-25, sp 10-inch cas 161 ft, dr 650 ft.

OUACHITA COUNTY — Belmont et al's Dean 1, 16-15-17, tested dry thru ds 1800-1900 ft, arr deepen. A. B. Turner, Tr.'s, Brown 1, 23-15-18, set 10-inch cas 103 ft, wo. Graves et al's Walker Trustee 1, sw sw 9-14-18, rig up.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, sp 10-inch cas 160 ft, show heavy oil 567 ft, dr 630 ft.

POPE COUNTY—Ark. La. P. L. Co.'s McFadden & Brooks 2, ne sw 15-9-21, dk.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, straightening hole, td 1530 ft. Ark. Valley Gas Co.'s Turner 1, se se 27-5n-30w, lcn.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29, tested sw. wo, td 3515 ft. Mansfield Gas Co.'s Fee 1, 1-4n-31w, sd for water 1027 ft. Ozark Nat. Gas Co.'s Bates 1, 28-8-30, dr shale 1420 ft. Lavaca O&G Co.'s Moore 1, nw sw 27-8-30w, rig up.

UNION COUNTY—Hickman et al's Hogg 1, 35-16-17, sd for water while fsh, td 2157 ft. Marine Oil Co.'s W. B. Thompson B-2, 10-18-13, lcn; P. Winn Est. F-1, 10-18-13, dr 3000 ft. Sunby et al's Perdue 2, 23-16-14, dry abn, td 3207 ft. Rice et al's Whatley 1, arr resume dr 92 ft. Malloy & Co.'s Burns 7, nw nw 31-17-15, rig up.

WASHINGTON COUNTY—Taylor et al's Runny 1, 1-13-29, fsh tools 1005 ft. Lincoln Lease Holding Synd.'s Townsite 1, 30-15-32, TA 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, TA 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY—T. Luckett's Balcon 1, 36-7-21, sd in black shale, wo fuel, td 5305 ft.

NORTH LOUISIANA

Completions

DE SOTO PARISH—
R. O. Roy, R. A. Nelson 1, 36-15-13 ..... * 2700
R. O. Roy, Wilcox 1, 35-15-13 ..... * 1960

JACKSON PARISH—
El Dorado Chief Oil Co., Southern Adv. Paper Co. 1, 35-15-4w ..... * 1400

LINCOLN PARISH—
Ark. Fuel Oil Co., Lewis & Co. 1, 26-20-4w ..... * 4292

RAPIDES PARISH—
Ayers Bros., Wicklipp 1, 9-5n-2e... * 3540

WEBSTER PARISH—
Service Drilling Co., Waller Est. 1, 21-23-11 ..... * 3480

BIENVILLE PARISH—Nichols et al's McDermott 1, 28-16-6w, tested 1 fourble mud 10 ft oil ds set 6⅝ cas 2181 ft wo cent td 2256 ft. S. P. Borden et al's Thomas 1, 27-16-9w, dr 3230 ft. Carter & Dobbs' White 1, 9-18-6w, sp set 10-in cas 100 ft dr 300 ft. Olds & Smith's Brice 1, 15-16-6w, topped Cane river formation 530 ft dr 1110 ft.

BOSSIER PARISH—Andrews & Davlin's Nattin 1, 15-22-14, 20 ft bro sand wo td 1501 ft. Autrey Oil Co.'s Johnson 1, 34-19-11, sd for fuel 60 ft. McDade 1, 28-19-11, dry thru ds 2 ft sand 2012 ft dr 2050 ft. H. I. Morgan & Shreveport-El Dorado Pipe Line Co.'s Kendricks 3, 22-19-11, dry thru ds 1772-86 ft cor 1796 ft. Triangle Drilling Co.'s Bolinger 1, 36-23-13, cor sand 3300 ft.

CADDO PARISH—L. B. Mawk's Swann 1, 23-21-14, sd for fuel 700 ft. Texas La. P. L. Co.'s Wall 1, 33-23-16, lcn.

CATAHOULA PARISH—La. G&F Co.'s Tensas-Delta A-1, 23-6-5e, dr 2061 ft.

CLAIBORNE PARISH—El Dorado Chief Oil Co.'s Dance 1, 27-20-7w, sd 2240 ft. Triangle Drilling Co.'s Cox Fee 1, 6-19-5w, set 9-in cas 3952 ft dr anhydrites 4196 ft. Baird Bros. et al's Whittaker 1, 30-20-7w, dr 1700 ft. Bough et al's Alexandria 1, 27-20-8w, rig up.

CALDWELL PARISH—Hudson et al's Burton 1, 35-12-2e, dr 1090 ft.

CONCORDIA PARISH—A. C. Glassell et al's Pittsfield Plantation 1, 41-8-10e, ds recovered est 5 mil ft gas bridged reset 6⅝ cas 1414 ft td 1453 ft. Pecania Plantation 1, 46-8-9e, lcn. Britton Koontz National Bank 1, 20-8-10e, lcn. Joe Marr et al's Maxwell 1, 35-3-8e, set 8-in cas 2000 ft td 2820 ft.

DESOTO PARISH—Joe Burnham et al's Hood 1, 30-11-14, set 6⅝ cas 2290 ft dr sandy shale 2735 ft. Mich-Louzanna O&G Dev. Corp.'s Payne 1, 12-11-16, sd wo 2070 ft. Gulf Ref. Co.'s Dry et al 1, 14-11-15, dr 3360 ft. Odell & Lawton's Tidwell 1, 11-13-14, tested sw show gas 3004 ft arr plug bottom shut off sw. Holly Oil Co.'s Talbot 1, 9-13-13, rig up. Pelham & Bundy's Rhodes 1, 32-13-14, set 6⅝ cas 2800 ft, 2000 ft oil and 200 ft sw in hole sand 2985-90 ft, made one head, wosr td 3009 ft. J. W. Clark's Tidwell 1, 22-13-14, rig up. R. O. Roy's R. A. Nelson 1, 36-15-13, sw abn td 2700 ft. Wilcox 1, se nw 35-15-13, dry abn td 1960 ft. Nelson 2, 35-15-13, rig up. W. H. Weichert's Hallie Smith 1, 31-14-15, rig up. Standard Oil Co. of La.'s Dowling Bros. 2, 5-13-13, 7-in cas 2800 ft, 8 ft bro sand wosr td 2840 ft. Farmer A-3, nw ne 5-13-13, sp set 10-in cas 103 ft. S. A. Guy et al's Dowling Bros. 1, 31-14-14, dk.

JACKSON PARISH—El Dorado Chief Oil Co.'s Southern Advance Paper Co. 1, 35-15-4w, dry abn td 1400 ft.

LINCOLN PARISH—Ark. Fuel Oil Co.'s Lewis & Co. 1, 26-20-4w, tested sw at 4292 ft, plugged back to 4256 ft, tested dry abn td 4292 ft, 6⅝ cas at 4234 ft.

MOREHOUSE PARISH—Pelican Nat. Gas Co.'s Tensas Delta 1, 17-18-6e, dr 2106 ft.

NATCHITOCHES PARISH—W. M. Coats et al's Collins 1, 28-9-10, set 6⅝ cas 2224 ft, dry at 2304 ft, coring lime 2304 ft. J. W. Cooper et al's Cooper 1, 35-11-10, arr ds test chalk rock 1280-90 ft. Robeline O&G Co.'s Winn 1, 7-8-9w, sd in rock 1635 ft. S. D. McDaniels' Clark-Morse 2, 23-5-6w, sd 2536 ft.

OUACHITA PARISH—C. W. Frierson's Haynes 1, se sw 9-17-3e, sp dr 110 ft.

RAPIDES PARISH—Ayers Bros.' Wicklipp 1, 9-5n-2e, dry abn td 3540 ft (corrected depth).

RED RIVER PARISH—E. C. Lucas' La. Delta Pecan 1, 34-13-11, set 6-in cas 2440 ft, 17 ft sand wosr td 2476 ft. Geo. L. Pace et al's Clarkson 1, 30-12-9, fsh ds 2710 ft. Lucky

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Street No. ..... City .....

Company ..... State .....

Strike Oil Co.'s Chaffraix 1, 33-12-10, sd for water 1550 ft. T. G. Shaw's Wilkinson 1, 4-12-10w, lcn.

RICHLAND PARISH—Austin & McDonald's Hunt 1, 13-17-5e, set 8-in cas 921 ft, wo. W. C. Feazel's Landrum 1, 6-16-7e, dk. Island O&G Co.'s Noe 1, 3-16-5e, dr 2263 ft.

SABINE PARISH—Magnolia Pet. Co.'s Giaque 1, 26-7-14, dr hd lime 2426 ft. McDaniels et al's Batson 2, 16-8-12, dr 1650 ft. Loring Oil Co.'s Shull 2, 26-8-12, top chalk 2389 ft, set 6-in cas 2320 ft, blg to test td 2391 ft. Schuffert 1, 27-8-12, set 6⅝-in cas 2376 ft, 500 ft oil hole wosr td 2450 ft. Huber & Mann's Newton 1, 26-8-12, set 6⅝ cas 2260 ft, top chalk 2333 ft, HFO wosr td 2417 ft. Lanier & Tarver's Newton 1, 25-8-12, sd for water 90 ft. Texas Co.'s Giaque 1, 27-8-12, set 6⅝ cas 2275 ft, topped marl 2273 ft, TA 2422 ft. Lacey Barkett Oil Co.'s D'Anna 1, 26-8-12, dr 1060 ft. Lacey Pet. Co.'s Tatum 1, 26-8-12, set 6⅝ cas 2263 ft, td 2303 ft. Ark. Fuel Oil Co.'s Russell 1, 26-8-12, sp set 10-in cas 303 ft, dr 1126 ft. R. L. Gay, Tr.'s, Bowman-Hicks 8, 18-7-13, sd 2552 ft. Sabine Lbr. Co. 3, 15-7-14, top marl 2116 ft, set 6⅝ cas 2104 ft, arr dr in td 2165 ft. Le Grande et al's J. W. Hale 1, 1-7-13, lcn. D. H. Reddick et al's Scretchfield 1, 18-9-12, sd 3280 ft. Paramount O&G Co. s Woolums 1, 11-6-12, changing to heavy rig td 2225 ft. Zeke Lohman's Wyatt Lbr. Co. 1, 18-4-11, partly rigged up wo. Lohman & Walker's Hubley 1, 21-7-11, set 6-in cas 1235 ft, tested dry 2 ft sand td 1356 ft, wo. Pelican Nat. Gas Co.'s La. Long Leaf 4, 4-7-11, set 6-in cas 2275 ft, td 2284 ft. La. Long Leaf 5, nw sw 4-7-11, lcn. Philp et al's Turner 1, nw nw 4-7-11, lcn. G. D. Neff, Tr's Turner A-1, 4-7-11, lcn. Loring Oil Co.'s Garner 1, 4-7-11, dk pat. Trammel 1, 4-7-11, sp set 10-in cas 105 ft. Pelican Nat. Gas Co.'s Sabine Lbr. Co. 4, 11-7-12, rig up. Stacey et al's Polly 1, 18-8-12, rig up. Longoria et al's Belton 1, 31-9-12, rig up. A. C. Glassell's Logan Oil Co. 1, 23-10-13, sd wo water 1800 ft.

TENSAS PARISH—A. R. Willis' Curry 1, 39-11-12, sd 2300 ft. Stovall Drilling Co.'s Miller 1, 18-10-10e, tested dry thru ds 1010-17 ft, dr 1236 ft.

WEBSTER PARISH—Sarepta Oil Co.'s Gardner 3, 6-22-10, dk. Ideal O&G Co.'s Coyle 1, 24-23-11, dk. J. P. Evans et al's Crichton 1, 31-18-8w, sd 1853 ft. Service Drilling Co.'s Waller Est. 1, 21-23-11, sw abn td 3480 ft. D. H. Coyle, Tr's Frasier 1, ne se 27-23-11, lcn.

SOUTH LOUISIANA

ACADIA PARISH—Yount-Lee's Houssiere-Latrielle 9, Evangeline, dr 7118 ft sand. Crowley 7, Evangeline, dr 4350 ft sandy shale.

CALCASIEU PARISH—Adams Oil Co.'s Roderick 1, Starks, sd 1100 ft. J. O. Davis' Ind. Lbr. Co. 1, 20-7s-12w, dr 5125 ft sand and shale. Union Sulphur Co.'s Martha Moss 1, Lockport, dr 5850 ft sticky shale. Yount-Lee's Miller 1, Lockport, w side, dr 6765 ft sand.

CAMERON PARISH—Magnolia's Sweet Lake 1, dr 6725 ft sandy shale. Shell's Watkins 15, Black Bayou, dr 1540 ft gbo. Black Bayou State 1, dr 4785 ft sand and lime. Freeport Sulphur Co.'s Yount-Lee 3, Black Bayou, dr 1160 ft cap rock; No. 4 ru. Vacuum's Cameron Meadows 1, 21-14s-13w, dr 4706 ft rock. The Texas Co.'s Calcasieu Lake State A-6, s end lake, ru. State-E. Hackberry 7, dr 4110 ft sand. Federal Pet. Co.'s Hebert 1, Hackberry, 33-1s-10w, dr 7375 ft shale.

IBERIA PARISH—The Texas Co.'s State Vermillion Bay 5, r 6525 ft. Lake Oil Co.'s Ben White 1, near New Iberia, r to set cas at 2710 ft. Jefferson Lake Oil Co.'s Lake Peigneur 9, Jefferson Island, dr cap rock at 575 ft, No. 10 dr 300 ft.

IBERVILLE PARISH—Standard's Wilbert 5, Bayou Blue, fsh 3225 ft. Wilbert 7, dk. Wilbert 8, dr 3150 ft sand and lime. L. Baist Cooperage Co. 1, Bayou Blue, capped piling. E. B. & S. P. Schwing 1, Bayou Blue, dr 1250 ft gbo. Shell's Wilbert 5, White Castle, dr 4700 ft sand and lime. Gulf's Gay 1, Bayou Choctau dome, dredging canal to location. Texas Gulf Sulphur Co.'s Wilbert 1, Bayou Choctau, dr 1600 ft sand. Wilbert 2, dr 1200 ft, No 3 ru.

JEFFERSON PARISH—Humble's Delaware Fur. Co. 1, 3 mi nw Lafitte, dr 3810 ft sand and shale.

LAFAYETTE PARISH—Pure's J. Manmotin 1, 5 mi n Lafayette, dr 6751 ft shale.

LA FOURCHE PARISH—The Texas Co.'s LL & E-Leesville 1, dr 3175 ft.

PLAQUEMINES PARISH—Humble's Cockrell-Moran 2, Lake Grande Ecaille, driving piling. Cockrell-Moran 3, shot dr stem at 1275 ft to sdtr. The Texas Co.'s Garden Island Bay State 4, dr 3600 ft sandy shale. Gulf's Buras Levee Board 1, 27-21s-30e, moving in.

ST. MARTIN PARISH—The Texas Co.'s Iberville Ind. Co. 2, Hager dome, dr 1150 ft sand and gravel, No. 3, lcn. Rycade's Woodyard Lake 1, Bayou Bouillon, dr 5475 ft sandy shale. State 4, Bayou Bouillon, ru.

ST. MARY PARISH—The Texas Co.'s South Coast Co. 1, Charenton, dr 7420 ft sand rock.

TERREBONNE PARISH—Chas. Paggi's Evergreen 2, Houma, sd 1800 ft. The Texas Co.'s Bay Junop 2, 21-21s-14e, dr 2125 ft sand and shale. Dog Lake A-3, moving in. State-Caillou Island 4, lcn. No. 5, bldg dk. Lake Pelto State 4, lcn, No. 5 lcn, No. 6, lcn. Bay St. Elaine 5, bldg foundation. State-Lake Barre 5 dr 2375 ft rock, No. 6 lcn. Four Isle 4 dr 3530 ft shale.

WEST FELICIANA PARISH—Putnam Synd's Como Plantation 1, 54-1-4w, fsh 3735 ft.

TEXAS GULF COAST

BRAZORIA COUNTY—
Rucks & Patterson, Hunter 1, sw Hoskins Mound ..... * 1175

AUSTIN COUNTY—O'Hara et al's Schrader 1, dr 1791 ft shale. Humble-Valley's Duncan State Land 2, Brazos River, bldg dk foundation; Hugo Hagan 1, 2 mi s Raccoon Bend, dr 2564 ft sandy shale; Hardy B-3, 800 ft ne B-2, dk; Fritz Lamp 1, 1½ mi sw Raccoon Bend, dr 3625 ft shale.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash dome, dr 5089 ft sandy shale. Rycade's Wisdom 27, Nash dome, dr 4870 ft sandy lime. Rycade & Amerada's Seaburn 1, Stratton Ridge, dr 2525 ft sandy lime. Freeport Sulphur Co.'s Fee 2001, Bryan Mound, dr 3625 ft lime rock. Rucks & Patterson's Hunter 1, sw Hoskins Mound, abn at 1175 ft in rock. Shell's Haury 1, Danbury, ru. The Texas Co.'s Ewing 1, Manvel, dr 7179 ft shale. The Texas Co.'s J. H. Murdock 1, Fresno, dr 1511 ft gumbo. Mills Bennett's Poole 1, Allen dome, dr 3395 ft sand. Allen 2, Allen dome, dr 3285 ft sand and lime. United Oil Synd's Mores 1, 3 mi n Danbury, sd 1450 ft.

CALHOUN COUNTY—The Texas Co.'s Thomas 1, Chocolate Creek, 6 mi w Port Lavaca, tested salt water on dr stem test at 5063 ft.

CHAMBERS COUNTY—Pure's Lost Lake 5, dr 5125 ft hard sand. Pure-Rycade's Jackson 1, Oyster Bayou, dr 5365 ft gbo. The Texas Co.'s Jackson 1, Salt Cedars, abandoned in shale at 5010 ft.

FORT BEND COUNTY—Gulf's Moore 25, Moores Field, dr 1985 ft lime; Moore 26, Moores Field, dr 1650 ft gbo.

GRIMES COUNTY—Deering & Noble's Templeman 1, 6 mi s Navasota, dr 2987 ft shale. Deering et al's Muenke 1, ½ mi n Anderson, dr 1803 ft shale.

HARDIN COUNTY—D. O. Speights' Gidrey 1, 4 mi s Batson, dr 2821 ft sand and shale.

HARRIS COUNTY—Humble's Simms-Smith 78, Goose Creek, dr 4970 ft sandy shale. Warren 8, Hockley, dr 3590 ft sandy shale. Minnetex 3, Mykawa, dr 4875 ft hard sand. Mrs. J. C. Baldwin's Kitzman 1, 2 mi n Cypress, sd 4250 ft. Gulf States Oil Co.'s Augspurger 1, 8 mi n Houston, dr 1250 ft shale.

JACKSON COUNTY—Jackson Co. Oil Synd's Drushell 8, Edna, dr 3800 ft sandy shale.

JEFFERSON COUNTY—Westbury Oil Co.'s West 1, S. Choate Sur, sd 4100 ft.

LIBERTY COUNTY—Harrison Oil Co.'s Gulf Fee 1, N. Dayton, dr 4880 ft shale. Saxet Oil Co.'s Wilhite 3, N. Dayton, dr 4850 ft sand. Victor Oil Co.'s Gulf Fee 2, N. Dayton, completed for 500 bbls daily at 5035-5065 ft, 41.5 gravity oil. Gulf's Ezzell 1, Hankamer, Levi Barrow Survey, dr 4120 ft gumbo, Boyt 9 lcn. Yount-Lee's Moores Bluff 3, Esperson, fsh for pipe at 7590 ft. Gulf's McFadden 2, Moss Bluff, dr 4450 ft in shale. Humble's Breeden 1, Moss Bluff, ru. Hylton 1, Moss Bluff, dr 3490 ft shale and lime. Sergent 1, Moss Bluff, ru. Rycade's Heiskell 1, 15 mi s Dayton, dr 501 ft shale.

MATAGORDA COUNTY—Empire's Boker 1, Citrus Grove, dr 4250 ft shale. Cockburn Oil Corp.'s Hawkins 2, Shepherds Mott, ru.

MONTGOMERY COUNTY—Price & Wilhite's Juergus 2, 3 mi Conroe, sds 2950 ft.

ORANGE COUNTY—Gulf's Stark 1, Port Neches, dr 5985 ft shale. The Texas Co.'s Stark 2, Port Neches, dr 5025 ft sandy shale.

WALKER COUNTY—Joyce Richardson et al's Smither 1, 12 mi n Huntsville, sd 3450 ft.

WHARTON COUNTY—C. S. Thomas' Taylor 1, Boling, dr 1500 ft shale.

WALLER COUNTY—Morris & Veihl's Chapman 1, 6 mi Hempstead, dr 3485 ft shale.

WASHINGTON COUNTY—Clifton et al's Pruiss 1, 3 mi sw Brenham, dr 1625 ft shale.

SOUTH TEXAS

ATASCOSA COUNTY—Frontier Oil Co.'s Boynton 2, John Sharp sur, td below 2000 ft, dr.

BASTROP COUNTY—Champion Bros.' H. B. Smith 1 (1 mi w of Elgin) td 1200 ft, dr in Taylor marl last report. Pacific O&G Co.'s J. M. Lytton 1 (150 ft from n and e lines) ru; Spooner 1, 4½ mi e of Cedar Creek) td 2350 ft, sd. Chas. Long's McWilliams 1 (150 ft sw of n line and 150 ft nw of Blue on 97-acre tract. Offsets L. I. Dodwell No. 1 Brundige well) lcn. Sarsfield-Wilson's J. A. Walker 1, (8½ mi ne of Elgin) td not reported, sd for water.

BEE COUNTY—Cosden Oil Co.s' Stoltzfus 1, Ragley subdivision, Jose Maria Uranga sur, ru. Grayburg Oil Co.'s Kimball 3, Stephen Winship sur, No. 329, td 4254 ft, abnd; Kimball 1 (discovery well) td 3547 ft, re-dr to top of sand, now setting short string of 5-3/16 in csg to complete as oil well. Hurlbut et al's Chestnut 1, Miguel de los Santos sur, ru. Humble & Hurlbut et al's Wood 1, P. T. Irrigation Co. sur, td 3490 ft, dr. Dr. H. E. Hewitt's Mauldin 1, J. Pointevent sur, No. 257, td 3654 ft, sd. Independent O&G Co. and Moody-Seagraves Prod. Co.'s Quincy 1, A. J. Moyah sur, td 4930 ft, cored gas stratum, blew in Sept. 10 out of control, several hours; mudded in with aid of 150 sacks of Baroid. Lange & Mims' Billingsley 1, Grayburg-Kimball area, td 380 ft, sd. Nichols et al's Hicks 4, Jose Maria Uranga sur, td 4510 ft, set 6⅝-in csg at 4360 ft, swabbing. Osage Oil Co.'s A. J. Mauldin 1, Pointevent sur, 1 mi sw of Grayburg-Kimball well, lcn. Hicks & Young (formerly Gene Patton et al) Billingsley 1, B. Q. Hadley sur, No. 196, td 360 ft, sd. Ed Price's Weiss 2, td 445 ft, waiting on casing; Weiss 3 (900 ft ne of No. 1) lcn. J. S. Mauldin et al's Mauldin 1, Geo. A. Kerr sur, ru. Rawlins et al's Campbell 1, 4 mi e of Mineral, mv on. Swift et al's Mauldin 1, J. Pintecant sur, td 875 ft, sd. T. B. Slick's (SRC) Alfred Theis 1, td 3590 ft, coring. Simms Oil Co.'s Holzmark 1, td 3549 ft, DST 3535-45 ft, show 300 ft mud and some gas on Lewis tester, set 8¼-in csg now shut in gas well with 1500 lbs. pressure, Christmas tree ru. Union Prod. Co.'s Ray 17, td 4225 ft, dr; Ray 25 (1700 ft from s and 1400 ft from e line of Pierce Miller survey in vicinity of No. 24) lcn; Ray 26 (2500 ft from s and 2000 ft from w line of Pierce Miller survey in gas area) lcn.

BEXAR COUNTY—C. S. Bowman's Riddler 1, sur No. 5, no report. Eckert and Son's John Brehn 1, td abt 700 ft, to complete. August Magel, et al's Beck 1, No. 36, lcn. Morosos and Collins (formerly Edminston et al) Hamberdale 2, td 680 ft, completed. Moore & Juar's Ellison 1, (14 mi w of San Antonio) td abt 2200 ft, sd. Penn Oil Co.'s Cooksey 1, J. W. Ball sur No. 1, prep to sp in, completing water well. Penn-Tex Oil Co.'s Sandemer 4 (Dobrowolski pool, td 702 ft, set csg; Sandemer 5, (300 ft s of No. 4) lcn; Sandemer 6 (300 ft s of No. 5) lcn; Sandemer 7 (300 ft s of No. 6) lcn. Russel & Moore's Mills 2, Angel Navarro sur, td 700 ft, dr. Snyder & Reeves et al's Glasscock 2 (12 mi ne of San Antonio) td 600 ft, dr. Swearingen Oil Co.'s Fee 7 (300 ft w of No. 3 lcn. Watson et al's Gembler 1, td 800 ft, dr. Weilbacher & Associates' Ernest 1 (6400 ft from s and 900 ft from w line of J. Christopher survey ½ mi w of Somerset field) sp in 9/6/30.

BROOKS COUNTY—Ed East's (Miller and Albricht) Braulia G. De Garcia 2, Mastina y Gonzalena tract, td 400 ft, set 6⅝-in csg, now

standing. Houston Oil Co.'s Wormser-Holbein 2, Palo Blanco Manguellos grant, td 3621 ft, tested gas 3610-16 ft, set csg at 3607 ft. Standing 1700 ft, 43 gravity oil in hole, preparing to run tubing. Humble's Singer 2 (Sec. 312) td 4904 ft, set 6⅝-in csg at 4769 ft, sand at 4769-75 ft, tested salt water, dr. Southern Crude Oil Purchasing Co.'s Holbein Wormser 1 (4 mi s of production in Lasater field,) td 3207 ft, dr.

DUVAL COUNTY—Humble's Koebler 49 (survey 172) lcn aband. Mag. Pet. Co.'s Edge 1, (Hahl survey 63) spudded in. Vacuum Oil Co.'s Duval Ranch Co. 1 (survey 280, 10,000,000-acre tract) dr water well last reports. Sims Oil Co.'s Dinn 9 (survey 143) temp aband. C. E. Long et al's (Shell) Bishop Duval Land Co. 1 (survey 59) lcn aband. SRC Company's Duval Ranch Co. 1 (survey 293) td 500 ft, dr.

EDWARDS COUNTY—James Dalgish, et al's Sid Peterson 3 (Warner Ranch, td abt 2700 ft, dr, by cave-in. Phillips Pet. Co.'s Holman 2, sur No. 25, td 4580 ft, dr.

FRIO COUNTY—W. H. Wray's Barns Sec. 123, td 100 ft, sd. United North and South Dev. Co.'s Little 1, (in J. J. & Sallie Little ranch), td 1802 ft, dr.

GOLIAD COUNTY—A. G. Rhemenscheider, Trustee's A. T. Fromme 1, (Simpson blk), Peter Dexter sur, td 1912 ft, dr, no later report. Union Prod. Co.'s Ray 27, Jabian Gomez (usr, 2 mi ne of Union No. 3 Ray, lcn; Ray 28 (150 ft from s line and 800 ft from w line of 416.5 acre E. Ray tract, 2 mi due e of line of Union No. 3 Ray) lcn; Ray 29, (450 ft from n line and 215 ft from w line of AB & M 621 acre survey, 2 mi due e of No. 3 Ray of Union) dk.

GONZALES COUNTY—Linden Pet. Co.'s Hensley 1, James Smith sur, td below 4460 ft, top of chalk abt 4400 ft. John Mauldin's (Finnell and Elam) Robinson 2, td 3256 ft, tested, showed some oil, sd for water, to lay line.

GUADALUPE COUNTY—Emerson et al's (survey) lcn. Cranfill-Reynolds' Meyers 1, (150 (survey) lcn. Cranfill-Reynods' Meyers 1, (150 ft from s and e lines, 100-acre tract in J Cantu survey, 2 mi ne of same operators No. 1 McIntyre) lcn. Grayburg Oil Co.'s Wells 2, 6 mi sw of Darst Creek) td 3360 ft, dr. Gulf Prod. Co.'s Thomas Dix 3, td 2530 ft, set csg at 2515 ft, waiting on cement; Thomas Dix 4, td 2510 ft, dr; Posey-Baker 6, td 2435 ft, dr; Posey-Baker 7, td 2532 ft, dr; Thomas Dix 5, td 2314 ft, dr; Molear 3, td 2620 ft, being completed; Cercy Anderson 3, td 620 ft, dr Knoblock 3, td 445 ft, dr; Posey Baker 8, td 1400 ft, dr; Dix 6, ru. Calhoun & Miller's Linebarger 1, td abt 1000 ft, dr. Humble's Denman 15-A, ru; Denman 16-A, prep to sp in. Louisiana Oil Ref. Co.'s Dix 6, td 2180 ft, dr; Dix 7, td 2212 ft, dr. Mag. Pet. Co.'s Dix 8, td 2212 ft, dr; Richburg 4, td 2306 ft, prod abt 2000 bbls, csg set about 2295 ft, reported in crevice; Huff 1 sp in; Knodel 3, dk; Dix 9, lcn; Dix 10 lcn; Dix 11 lcn. New Bfls O&G Co.'s Seidman 1, td below 2000 ft, dr. Simms Oil Co.'s Manford 4 (Manford pool), td abt 2219 ft, csg set 2217 ft on top of crevice in Taylor marl, blew in for abt 1000 bbls, bridged over, cleaned out, now flowing by heads. Suttle et al's Baenziger 2, td not rept, dr. Sun Oil Co.'s Knoblock 9 (700 ft from ne line and 150 ft from se line of lease), td 1925 ft, dr; Knoblock 10, td 1612 ft, dr; Knoblock 11 (150 ft from ne line and 150 ft from se line), td 689 ft, dr; Knoblock 12 (150 ft from ne and 150 ft from nw line) td 150 ft, dr. The Texas Co.'s Knoblock 9-B td 2420 ft, dr; Posey Baker 6, td 2385 ft, dr; Henry Willie 6, td 1550 ft, dr; Knoblock 5-A, prep to sp in; Knoblock 10-B, sp in; Knoblock 11-B, sp in.

JIM HOGG COUNTY—Cole Pet. Co.'s Cole 1 (blk 7, sur 23, W. P. Allen Ranch) lcn; Wood 1 (blk 16, survey 82) ru. North and Walton's Allen 1 (blk 13, subdivision No. 1 W. P. Allen ranch) lcn. Wm. H. Barnhart's McCampbell ranch 1, td 1100 ft, dr. E. E. Watt's Agt, Gomez 1 (survey 125) td 500 ft, dr, gas and oil sand at 125-31 ft. South Texas Prod. Co.'s Hinnant 1 (share 5 Los Animas Grant) ru. J. W. Pippin's N. Hinnant 1 (survey 147) dk.

KENDALL COUNTY—Borget et al's Wallie Haag 1, td 1256 ft, sd. R. M. Perkins' J. Lawhon 1, td 700 ft, dr, last report. Dixon et al's Behr 1 (3 mi se Sisterdale), td below 2250 ft, sd. Molwinkle et al's Karston 1, td

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1340 ft, dr. Permian Oil Co.'s Boles 1, machinery on lcn. Hardy Sitton's W. B. Garvin 1, td 760 ft, sd. P. B. Sterling's McCrocklin 1, td 865 ft, dr resumed at 850 ft.

KERR COUNTY—Mashe & Trunstill's Jeff Love 1 (Western Kerr County), td 1400 ft, dr.

KINNEY COUNTY—Blume et al's Herbst 2, Boindezter Burns sur, td 300 ft, sd. Mag. Pet. Co.'s Wardlow 1 (Blaez survey) td 3215 ft, dr. Mardon Oil Co.'s Clamp 2, no report.

LEE COUNTY—Wheeler's McDay 1, td 1308 ft, dr in Cook mountain formation ta 1308 ft, dr in Cook mountains formation at

LIVE OAK COUNTY——Houston Oil Co.'s Snyder 1, lcn chared; Cartwright 22, td 5425 ft, pump mud; Boothe 1-A, mv in material. Larco Gas and Pet. Co.'s Wallace D. Wade 1, lcn. Markley et al's Reeves-Brown 1, dk. Penn Oil Co.'s Lyne 1, td 1945 ft, dr. Jacobs, Busini, Pickett's Key 1, dk.

MAVERICK COUNTY — Rycade Oil Co.'s Chittim 5 (Sec. 129) td 4765 ft, sd for water; Sullivan 5 (Sec. 82) td 6902 ft, dr.

McMULLEN COUNTY—Mogul Pet. Co.'s Martin 1 (150 ft from nw and sw lines of e Meloy survey, 15 mi sw of Tilden) lcn.

MEDINA COUNTY—Calco Pet. Co.'s Crawford 1, td 2281 ft, gas and oil show at 2194 ft. Natl. Oil Co.'s Howard 1, td 1645 ft, set 6⅝ in csg at 1610 ft on top of sand, cored saturated sand, 35 feet, swabbing.

NUECES COUNTY—Grimm & Yakey's Land Ranch 1 (7½ mi ne of Agua Dulce field, 2½ mi ne Banquet) lcn. Goucher Dr. Co.'s 1, td 1670 ft, set and cement csg at 1659 ft, large gasser with 700 lbs pressure. Independent O&G Co.'s C. Baldwin 1, td 4320 ft, dr. Saxet O&G Co.'s (Pearson et al) Donigan 2, ru; Rachael 17, ru.

REAL COUNTY—McGinley and Sigler's L. A. Habley 1 (center of sw quarter survey 175) to sp in before Sept. 22.

SAN PATRICIO COUNTY — Jacob, Bussini & Pickett's J. C. & Bobby Baldwin 1, td 4020 ft, sd mv on heavy rig, to re-dr. J. L. Kenedy's Lolie McRae 1, prep to sp in. Peterman Oil Co.'s O. K. Crow 1, (2 mi s of Sinton, td 2782 ft, dr, cored sand 2739 ft; Foster 1, 3½ mi w of Sinton, lcn. Saxet Oil Co.'s Carroll 1, 8 mi no of Gregory, to sp in. Union Prod. Co.'s Welder 4, E Portillo sur, td 3975 ft, cored shale and lime at 3939 ft.

STARR COUNTY—Nuguna Oil Co.'s Kelsey-Boss 1 (porcion 75) lcn, temp aband. Mrs. J. L. Smith's Walch 1, td 916 ft, dr in hard rock with roller bit. Kush and Duerkson's Kelsey-Boss 1, td 520 ft, dr. Los Olmos Oil Co.'s Kelsey-Boss 1, td 50 ft, dr. Texas Co.'s Guerra "A" 5 (675 ft from n and e lines, share 305, "C" procion 67) td 370 ft, dr.

UVALDE COUNTY—Phantom Oil Co.'s Claudt 1 (survey 661) td about 2550 ft, dr.

VAL VERDE COUNTY—Atlantic Oil Prod. Co.'s Reynolds & Miller 1, td 750 ft, dr. A. Blume's Yoast 1, td 850 ft, sd. O. O. Owens et al's Mills 1, td 6742 ft, reaming. Independent Operator's Whitehead 1, td 5376 ft, sd for csg. Phantom Oil Co.'s Ingram 1, td 3035 ft, dr by tools.

VICTORIA COUNTY—Atte Dr. Co.'s J. C. West 1, td 1525 ft, temp aband. Houston Oil Co.'s McFadden 1, C. L. Mann sur, td 3315 ft, sand 3310-15 ft, no showing. Lion O&G Co.'s McFadden 2, M. Trevino sur, td 4830 ft, dr. The Texas Co.'s McFadden 1, Hannibal Bonney sur, td 4000 ft, dr, DST 3995-4000 ft, reported, blew water out of dr stem.

WEBB COUNTY—J. L. Elliott's Esperanza Land Livestock Co. 2 td 1980 ft, standing. O. W. Killam's Bruni 5 td 2600 ft, plug back to 2400 ft, to make gasser, now dr; Villegas 1 in Reiser field sp in. Mag. Pet. Co.'s Wright 1 (survey 674) dk; Jones 1 (survey 674) td 3940 ft, dr. Geo. S. Marshall's Garcia 2, td 2405 ft, failed to get test in sand at 1860 ft, sand 2398-2405 ft shows oil testing through tester, set csg at 2372 ft. Trussell, Cezeaux & Partee's Bruni 1 td 2475 ft, dr deeper, tested oil, gas and salt water at 2470-75 ft. Washington-Texas O&G Co.'s R. O. Benavides 1 (blk 16, Sec. 268) ru; Barnsley 1 td 2332 ft, top of sand 2305 ft, csg set 2305 ft, prod 30,000,000 cu ft of gas with 585 lbs rock pressure. South Texas Prod. Co.'s Yeager-Stroman 1, td 2091 ft, cased at 2075 ft, prod 6,000,000 cu ft of gas with 285 lbs rock pressure.

WILLIAMSON COUNTY—W. D. Anderson's M. V. Lawerence 7, td 2242 ft, csg set; M. V. Lawerence 8 lcn; Simmons 5-A set csg 1465 ft; T. P. Simmons 6 lcn; S. J. Smith 1, td 2575 ft, sd for water. Bartlett & Wilson's R. E. Steward 2, no report. E. L. Chapman's Fuchs 1, td 970 ft, sd. J. L. Collins' M. V. Lawerence 5, td 1462 ft, sd for water; M. V. Lawerence 7, lcn. E. E. Ertel et al's H. Swenson 1 sd for water. Eliott and Chapman's A. J. Carlson 1, td 40 ft, sd. Haska Bros.' Garzel 1 (e of Chapman field) contract let for test; Slayers 1, contract let for test. A. J. Luke's Simmons 1, H. Owen sur, td 2210 ft, sd account water. W. C. Marshall's R. A. Krueger 2, td 2950 ft, sd. Manning & Anderson's Cooper 1, td abt 1300 ft, sd for water. Martin et al's S. H. Jarrell 1, td 40 ft, sd. Tom Patton et al's J. C. Abbott 1 (offset to mead well) prep to sp in. G. Stratton's J. C. Abbott 5, S. Miller sur, sd for water. A. M. Keisker's E. L. Chapman 1, dk. Jesse Tomberlin's Partain Bros. 1, td 1410 ft, sd. Texas O&G Dev. Co.'s Gerret & Allison1 (9 mi ne Taylor) td 40 ft, sd. R. S. Wilson, et al's C. Sitman 1, T. A. Moore sur, td 2850 ft, sd for water; Walker 1, td not reported, sd.

ZAPATA COUNTY—Alamo Dr. and Leasing Co.'s Trevino 6 (Claggett lease) td 200 ft, standing; Trevino 6 (Blair lease) ln. Allied Gas Co.'s Trevino 16-A, lcn; Trevino 8-B, td 1258 ft, sg set 1257 ft, waiting on cement; Trevino 17-A, lcn. Allied Gas & Allen & Morris' E. Guittierrez 7, td 1253 ft, csg set 1252 ft, waiting on cement; E. Guittierrez 8, lcn; E. Guittierrez 9, lcn. Arnold and Ahler's (Wicker et al) Garza 3 ru. Blair & Son's Guittierrez 1, td 1220 ft, dr. Nordan-Morris et al's C. Bustamente 2, td 1427 ft, csg set 1364 ft, showed gas; E. Bustamente 1, lcn; S. Bustamente 1 (150 ft from nw line and 990 ft from ne line of 30-acre tract in Comitas Grant No. 34) lcn. Henne & Winch's Bustamente 2, td 1525 ft, testing sand, testing through dr pipe. Harrison et al's de la Santos 1, td 1180 ft, dr. Keene and Jackson's Garza 1, td 600 ft, dr. O. W. Killam's Cuellar 26-B td 1595 ft, csg set 1558 ft, prod 75 bbls of oil; Hinnant 1 (Sec. 72) td 1596 ft, dr; "C" 28 Cuellar td 1200 ft, dr; 1 sur 74 mv on. Lincoln O&G Co.'s Wormser 1, td 603 ft, coring. Natl. Oil Co.'s Adams 1-A, td 696 ft, sand 689-696 ft, made oil, csg set at 688 ft, waiting on cement; Luther 1 et al (blk 97, Da Pron subdivision, Porcion 6) lcn. B. F. Nixon's Guitterrez 1, td 200 ft, prep to re-dr. John Papas, Inc.'s Flores 1 (Porcion 350) dk. Penn-Tex Oil Co.'s Benavides 3-F ru, laying water line. Penny Prod. Co.'s Cuellar 1, td 700 ft, dr. Gordon McKenzie's Trevino 1, td 30 ft, sd. W. R. Shankle's Trevino 7, td 1284 ft, csg set 1275 ft, pumping 100 bbls; Guitterrez 3, td 1269 ft, csg set 1255 ft, prod 100 bbls. SRC Corporation's Cuellar 9-B td 1273 ft, dr, no later report; Cuellar 14-B td 3300 ft, dr. Smith-Clark's Montemayor 1, td 1820 ft, dr. T. W. Work's Uribe 1 (share 7 Borrego Grant) ru.

ZAVALLA COUNTY—Anglin O&G Co.'s Pryor 5 td 1109 ft, sd; also making lcn w of La Pryor. Cromwell et al's Whitecotton 1, dk. Gribbs and Davidson's Weatherby 1, (near Loma Vista) td 1732 ft, sd. Texas Gas and Fuel Co.'s Pryor 3 to make lcn. Weigand Bros.' Gates 1, td 2540 ft, sd.

EAST TEXAS

CASS COUNTY—Jno. C. Rodgers' Lanier 1, K. A. Welborne sur, coring 615 ft.

HARRISON COUNTY—Shell Rock Pet. Co.'s Daugherty 1, Burris sur, sd 3520 ft.

MARION COUNTY—W. D. Chew's Fee 1, Wm. Hamilton sur, set 6-in cas 2270 ft, dr plug td 2532 ft. Trammell et al's Hussey 1, Chas. Lockhart sur, sd for water 1334 ft.

PANOLA COUNTY—Texas-La. Prod. Co.'s Lawrence 1, Harrison Davis sur, dr 750 ft. Knott et al's Marion Durham 1, Chas. Haley sur, sd, wo 2400 ft. Smith et al's Hunt 1, Albert Johnson sur, dk. Bell et al's Burnett Lbr. Co. 1, S. B. Hendricks sur, cored sandy shale showing oil, set 8⅝-in cas 2047 ft, td 2075 ft. Ark. La. P. L. Co.'s Brumble A-2, B. C. Jordan sur, ds hun, junked hole, moving 100 ft east to new lcn, td 4408 ft. W. G. Banks et al's Kyle 1, J. Tippett sur, dk. Warren & Dawes' McNeese 1, A. Booker sur, dk. Natural Gas Prod. Co.'s Tom Moore 3, B. C. Jordan sur, set 6⅝-in cas 4360 ft, dr plug td 4400 ft.

SABINE COUNTY—Loring Oil Co.'s Nona Mills Lbr. Co. 1, Jas. Mason sur, dr 3400 ft.

SHELBY COUNTY — C. R. Ridgeway's Parker 1, Jesse McElvey sur, dk. Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3300 ft.

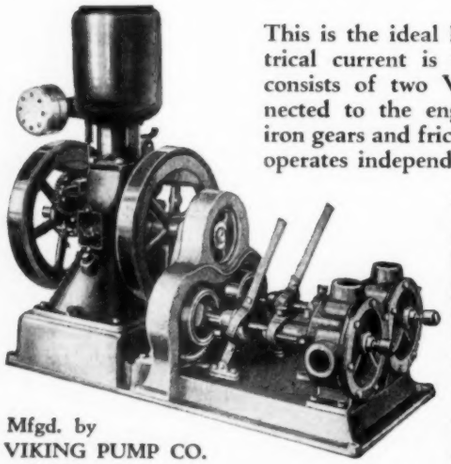
EAST CENTRAL TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
NAVARRO COUNTY—		
O. W. Killam-Phillips et al, L. N. Wilson 1	*	3167

BOWIE COUNTY—Joe Burham et al's G. W. Burnett 1, M. H. Janes sp. 60 ft, sd. Lee Timberlake et al's J. Tidwell 1, elev 286 ft, top Pecan chalk 1229 ft, coring shale 2830 ft, tested 2695-2730 ft, show of gas 10 mil.

CAMP COUNTY—McDonald Bros.-Atlantic

Twin Vikings with Engine Drive



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Prod. Co. et al's B. D. Tillery 1, ru and sd.

CASS COUNTY—Phillips Pet. Co.'s J. R. Olds 1, sd.

CHEROKEE COUNTY—H. J. Cox et al's Farris, rig. D. H. Byrd et al's W. H. Felder 1, rig.

DELTA COUNTY—C. A. Everts et al's J. A. Smith 1, elev 525 ft, Pecan chalk 355-399 ft, r at 2175 ft. Delta County Development Co.'s M. E. Hays 1, elev 503 ft, Pecan chalk 421-481 ft, fsh at 3010 ft.

ELLIS COUNTY—C. G. Foster & S. C. Richardson's Moise-Cerf 1, elev 440 ft, sd for water 2187 ft. E. H. Rogers et al's J. L. Winn 1, dr 590 ft, shale and chalk. Triangle Corp.'s W. B. Hale 1, Austin chalk 78 to 437 ft, Woodbine sand 836 to 1120 ft, sd at td 3002 ft.

FANNIN COUNTY—North American Pet. Co.'s Allen 1, sd 1400 ft. Ed V. Parsons et al's Morgan 1, elev 668 ft, sd 3410 ft. E. M. Rogers et al's Mrs. E. C. Swain 1, sd 1500 ft.

FRANKLIN COUNTY—Harper-Byers et al's A. J. Laws 1, sp and sd.

HENDERSON COUNTY—H. B. Ashburn et al's T. E. Terry 1, elev 397 ft, sd 2510 ft. L. G. Bradstreet & Co.'s J. J. Shaughnessey 1, elev 548 ft, Pecan chalk 2560-2734 ft, top soft Austin chalk 3547 ft, top solid chalk 3595 ft, dr 3843 ft chalk. E. L. Chapman et al's Cade 1, elev 340 ft, top Pecan chalk 3170 ft, 3199 ft fsh. Geo. L. Pace et al's S. Anthony 1, elev 410 ft, Pecan chalk 2252-2694 ft, sd 2730 ft. Sunray Oil Co.'s R. H. Davis 1, Pecan chalk 2536-2694 ft, Austin chalk 3540-3998 ft, sd 4560 ft.

HUNT COUNTY—Mrs. Mamie S. Hammonds-F. B. Branson & C. A. Kelsey's J. S. West 1, elev 505 ft, Pecan chalk 1310-1365 ft, Austin chalk 1415-1815 ft, dr 2990 ft in shale. R. J. Worthington Oil & Develop. Co.'s W. H. Adams 1, lcn.

KAUFMAN COUNTY—Otto R. Winter & Coastline Exploration Co., Inc.'s John Barrow 1, elev 538 ft, Austin chalk 2283-2667 ft, cored Eagleford 3155-57 ft.

LIMESTONE COUNTY—Haley-Heemann's Wilkes 1, elev 421 ft, sd 1444 ft.

MORRIS COUNTY—East Texas Development Co.'s (Sucker-Fulwood-Cook) J. M. Staggers 1, elev 370 ft, top Pecan chalk 2525 ft, dry and abn at 3060 ft in chalk.

NAVARRO COUNTY—Young et al's J. H. Farmer 1, top Austin chalk 787 ft, sd 960 ft. L. G. Priest et al's Henry Albritton 1, lcn.

RAINS COUNTY—Everett & Morrison's F. Franklin 1, sp and sd.

RED RIVER COUNTY—E. L. Chapman et al's Morris-Guest 1, sd 1505 ft.

RUSK COUNTY—Benedum-Trees Oil Co. & Clem S. Clark's Mrs. M. R. McCafflin 1, elev 406 ft, top Pecan chalk 2190 ft, 2455-72 lost. C. M. Joiner et al's Mrs. Daisy Bradford 3, elev 390 ft, Pecan chalk 2590-2744 ft, base Austin chalk 3490 ft, td 3592 ft, bldg fourth tank, pipe on ground. Moss et al's Mathews 1, top Pecan chalk 2296 ft, derrick blown down, td 2338 ft.

SMITH COUNTY—Owen-Sloane Oil Co. & R. R. Davis' J. H. Starns 1, elev 417 ft, top Pecan chalk 2738 ft, dr 2915 ft chalk. T. B. Slick and Winona Oil Co.'s M. Freeman 1, elev 498 ft, top Pecan chalk 2955 ft, sd 3520 ft. Sun Oil Co.'s Oscar McGehee 1, sp 35 ft. Thayer and Rogers' Dr. Willingham 1, dr 810 ft in shale.

VAN ZANDT COUNTY—Bethel Oil Co.'s P. Smith 1, elev 435 ft, Pecan chalk 2555-2790 ft, Austin chalk 3865-4009 ft, sd 4603 ft. D. H. Byrd et al's C. H. Morris 1, elev 570 ft, last report dr 1060 ft. E. L. Chapman et al's Chas. T. Wolverton 1, elev 515 ft, Pecan chalk 2810-3106 ft, base Austin chalk 3409 ft, dr 3545 ft; Wolverton 2, sd 510 ft. L. G. Priest et al's Blanche Blewett 1, pipe stuck 3000 ft. Texas Chief Oil & Gas Co.'s J. P. Porter 1, elev 548 ft, fsh 2464 ft. Vance Oil Co.'s Wages 1, rig.

VAN FIELD—Mrs. W. A. York Strip 1, se No. 1, rig; No. 2, lcn. Broderick and Calvert's M. F. Shirley (2.07-ac strip) Pecan chalk 1546-1670 ft. E. L. Chapman et al's Clark 1, sd, dk down. Cranfill-Germany, Inc.'s L. L. Swain 1, rig. Hart Pet. Co.'s O. L. & L. L. Swain 1, dk down. Helms et al's C. E. Bogue 1, dr 1190 ft shale. Hill and Hill's

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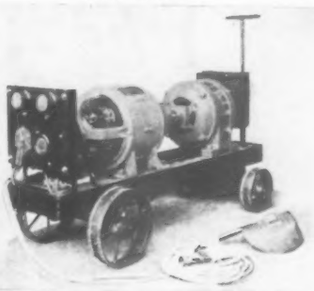


Landis Machine Company

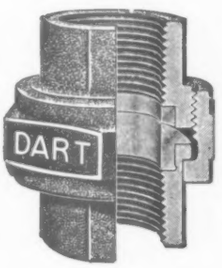
Niles Tool Works

CHAS. J. HARTER
10th Floor Santa Fe Bldg., Section 2
Dallas, Texas
Telephone 7-2874

WILSON ELECTRIC ARC WELDERS IN HOUSTON AND DALLAS STOCKS
LANDIS BOLT AND PIPE THREADING CHASERS IN HOUSTON STOCK

BRONZE TO BRONZE

Is the Reason



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PROVIDENCE, R. I.
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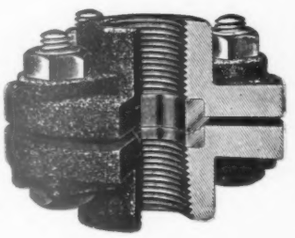

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AURORA, ILL.

The American Well Works manufactures a complete line of oil well pumping units. They are made in a wide variety of sizes permitting a length of stroke of from twelve to fifty inches. All gears are enclosed and run in a bath of oil. Used throughout the oil fields of the world. Catalogs and engineering data upon request.

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THE AMERICAN WELL WORKS
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QUALITY IS ALWAYS ECONOMY
MANUFACTURERS OF
OILFIELD WINCHES, PIPELINE WINCHES AND BACKFILLERS

Auxiliary Equipment For "Caterpillar" Tractors

ALLSTEEL PRODUCTS MFG. CO.
CABLE ADDRESS "ALLSTEEL"
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DIAMOND CHAINS

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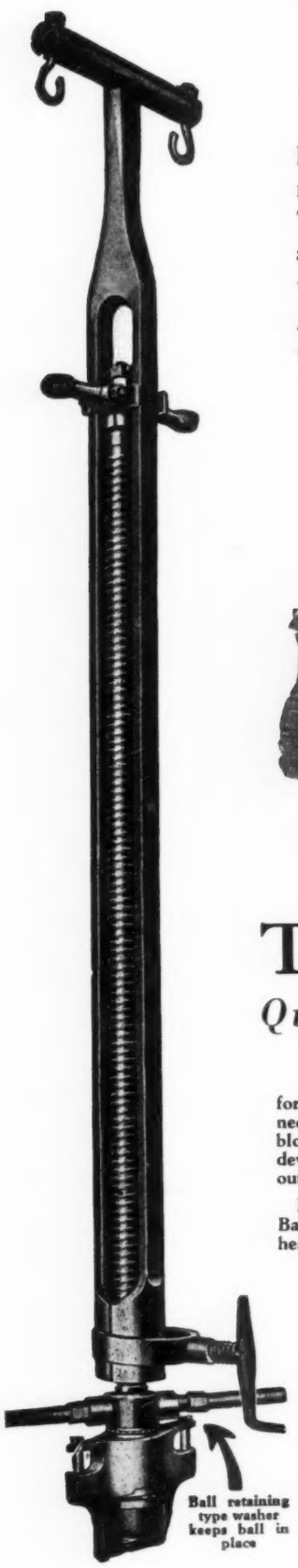
BURNS—A *Name That Has Always Stood for Highest Quality*

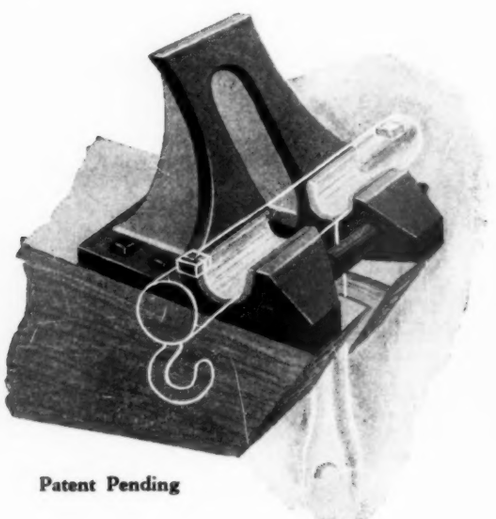
"The BEST"

A Time Worn Phrase

But if any tool has ever won the right to the title, it is the Burns Tubular Temper Screw known and stocked throughout the world's oil fields—*the undisputed evidence of unquestioned quality.*



Ball retaining type washer keeps ball in place



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The same BURNS

Quality in a new product

THE BURNS BEAM BEARING

for Temper Screws, saves the beam and makes unnecessary the practice of *half-soling*, or nailing a block of hardwood to the beam head. A *Safety first* device as it is impossible for Temper Screw to jump out.

No working parts, nothing to get out of order. Babbitt bearings prevent wear on the temper screw head. For sale by your Supply Store, write for prices.

BURNS *Tool Company*

OKMULGEE - OKLAHOMA

Maxfield 1, sd. L. A. Dowdle 1, top chalk 2565 ft, cemt cas 2942 ft. Imperator Oil Corp. et al's Carter strip 1, dk. Imperator & Paul Viteks G. J. Luther 1, elev 447 ft, top Pecan chalk 1653 ft, top Austin chalk 2630 ft, sd 2660 ft. Roy Jenkins et al's M. E. Davis 1, dr in sand 2917 ft. Kraft-Kelsey and Pure Oil Co.'s Wylie Enas strip 1, sd 1328 ft. Pure Oil Co.'s A. D. Clark 5, cemt cas 2737 ft. A. D. Clark Rig; A. D. Clark (17 ac) 1, top Pecan chalk 1644 ft, fsh 2800 ft. W. H. Cook 1, lcn. B. E. Crim 1, top Austin chalk 2510 ft, cemt cas 2868 ft; J. F. Crim (40 ac) 1, tested dry, cemt cas 2981 ft; J. F. Crim 2, lcn. Mrs. J. E. Crumble 1, dr 2800 ft. V. T. Davis 1, dk; R. A. Howell (25-ac) 1, top Austin chalk 2296 ft, cemt cas 2639 ft. A. R. Humphreys 1, cemt cas 2799 ft. I. D. Miller 1, top Austin chalk 2455 ft, cemt cas 2788 ft. W. E. Morris (79 ac) 1, top Austin chalk 2548 ft, cemt cas 2794 ft, td 2829 ft. J. T. Petty 1, cemt cas 2660 ft. M. F. Shirley 1, cemt cas 304 ft. O. L. Swain (40 ac) 1, cemt cas 2820 ft. Van School (5 ac) 2, cemt cas 2722 ft. W. F. Swain (40 ac) 2, dk. J. T. Taylor 1, lcn. J. T. Thompson 9, lcn. A. R. Tunnell 3 and 4, lcns. H. P. Tunnell 1, cemt cas 2820 ft. Van School (5ac) 2, cemt cas 2662 ft. R. L. Wells 5, dk. Wells 10, cemt cas 2572 ft. Wells 11, lcn. W. A. York 1, coring oil sand 2285 ft. York 2, lcn. Shell Pet. Co.'s J. T. Taylor 1, dr 590 ft. E. K. Fowler 7, lcn. Sun Oil Co.'s I. W. Thompson 3, dk. The Texas Co.'s G. W. Carter 2, Pecan chalk 1620-1750 ft, Austin chalk 2633-2796 ft, sd, dry in Eaglesford shale 2934 ft. R. V. White (34.7 ac) 2, cemt cas 2734 ft. Van Joint Account's W. E. Morris (3 ac) 2, cemt cas 2597 ft. Vintex Oil Co.'s (Paul Vitek) (2 ac strip) 1, dk.

WOOD COUNTY—Wood County Dev. Co.'s Ricks 1, sd 997 ft.

WEST TEXAS

Company, Well and Location	Initial Production Depth Bbls.
WINKLER COUNTY—	
Simms et al, George Sealy 1	* 3210

ANDREWS COUNTY—Deep Rock Oil Co. et al's W. J. Mathis 1, elev 3193 ft, top salt 1730 ft, flowing 10 barrels oil with tubing, td 5088 ft. Fuhrman Pet. Corp.'s W. T. Ford 1, elev 3186 ft, making 30 mil cu ft wet gas; no change reported. Martin-Maer & Kell Meadore 1, elev 3286 ft, top salt 1705 ft, sd 4501 ft.

BREWSTER COUNTY—Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, sd 2510 ft.

COKE COUNTY—Arkansas Fuel Oil Co.-Dixie Oil Co.'s Stepp 1, ur 4315 ft, 6⅝-in cas set, salt water encountered 4220 ft.

CONCHO COUNTY—W. C. Beesley et al's Sam Waring 1, sp and sd. A. W. Turner et al's Brosig 1, sd, hfw 1550 ft.

CRANE COUNTY—Cranfill Bros. Oil Co.'s J. T. Muir 1, sd 650 ft. Cranfill Bros. & Gulf Prod. Co.'s Tubbs 1, elev 2526 ft, top salt 505 ft, top white lime 2445 ft, dr 4055 ft, 200 ft sulphur water in hole.

CROCKETT COUNTY—Magnolia Pet. Co.'s A. C. Hoover 2, top salt 865 ft, dr 1525 ft, good show of oil. McMan O&G-Amerada Pet. Co.'s Powell 2, top salt 1005 ft, dr 2200 ft.

CULBERSON COUNTY — Grisham-Hunter Corp.'s W. D. Garren 2, elev 4325 ft, top Delaware 1273 ft, sd 1520 ft. W. L. Kornrumpf et al's Garren 1, dr 960 ft in sandy shale.

ECTOR COUNTY—Southern Crude Oil Purch. Co.'s Cowden 1, elev 3053 ft, top white lime 4020 ft, flowing 75 bbls 29.7 gr oil by heads and dr lime 4062-4244 ft. H. F. Wurtz et al's Ibberson 1, elev 2840 ft, top salt 865 ft. sd 2375 ft, co 1000 ft off bottom. Amerada-Skelly's Univ. B-4, lcn.

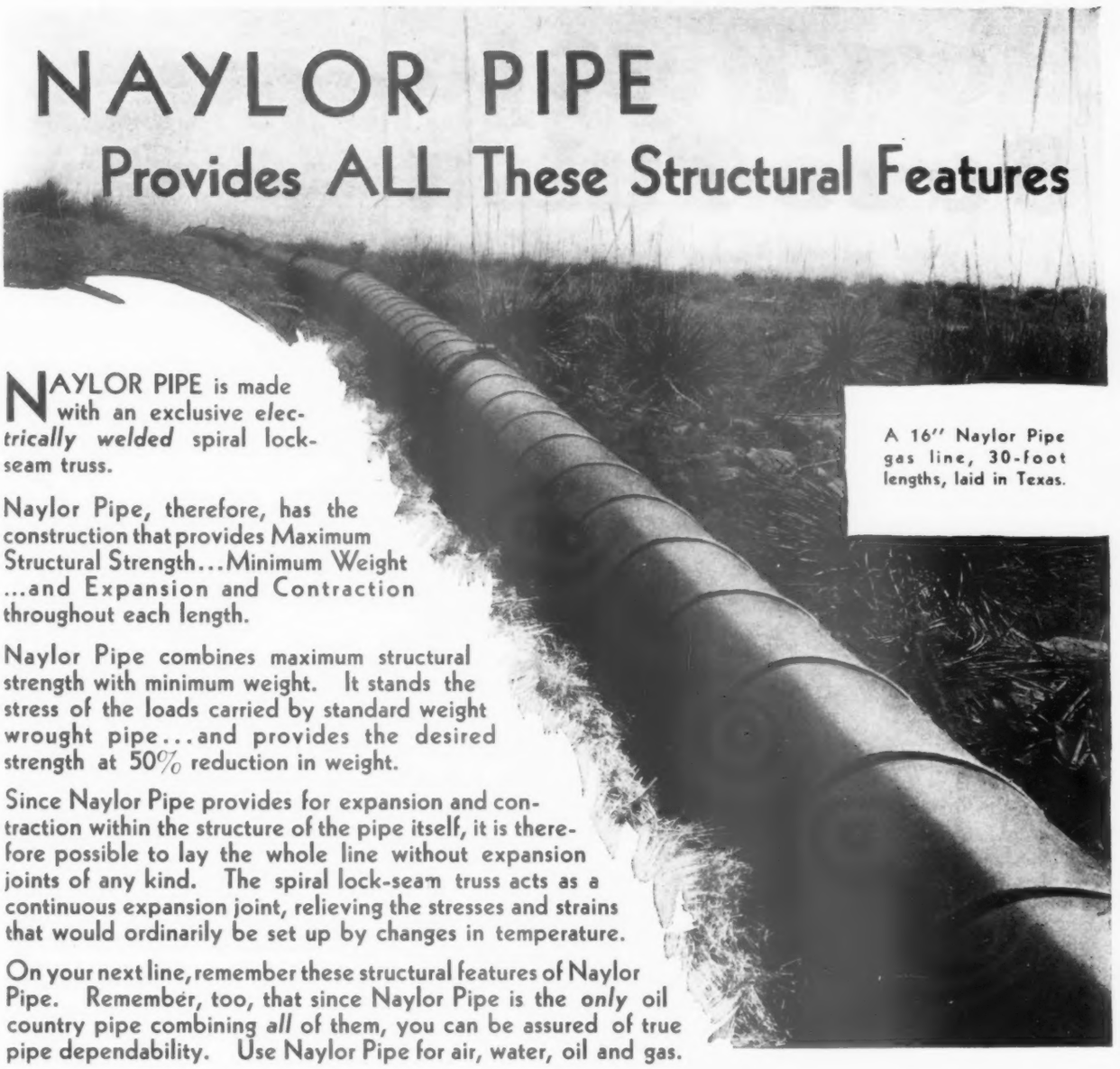
EDWARDS COUNTY—Phillips Pet. Co.'s Holman 2, dr 5455 ft.

FISHER COUNTY—Cranfill-Reynolds Co., Flannigan 2, elev 1794 ft, sd after shot 3092-3109 ft; Willingham 3, dr 465 ft.

GLASSCOCK COUNTY—Ed. Timberlake et al's Meek 1, elev 2575 ft, top lime 2670 ft, sd

NAYLOR PIPE

Provides ALL These Structural Features



A 16" Naylor Pipe gas line, 30-foot lengths, laid in Texas.

NAYLOR PIPE is made with an exclusive *electrically welded* spiral lock-seam truss.

Naylor Pipe, therefore, has the construction that provides Maximum Structural Strength...Minimum Weight ...and Expansion and Contraction throughout each length.

Naylor Pipe combines maximum structural strength with minimum weight. It stands the stress of the loads carried by standard weight wrought pipe...and provides the desired strength at 50% reduction in weight.

Since Naylor Pipe provides for expansion and contraction within the structure of the pipe itself, it is therefore possible to lay the whole line without expansion joints of any kind. The spiral lock-seam truss acts as a continuous expansion joint, relieving the stresses and strains that would ordinarily be set up by changes in temperature.

On your next line, remember these structural features of Naylor Pipe. Remember, too, that since Naylor Pipe is the *only* oil country pipe combining *all* of them, you can be assured of true pipe dependability. Use Naylor Pipe for air, water, oil and gas.

NAYLOR PIPE COMPANY, Main Office & Plant, 1230 E. 92nd St., CHICAGO

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TONCAN COPPER

Naylor Pipe

Maximum Structural Strength — Mo-lyb-den-um IRON — With Minimum Weight

Standardized Naylor Pipe is made in sizes 6" to 12" I. D. and 14" to 20" O. D. in any uniform length desired up to 40'0". Ends made to wrought pipe standards for all types of coupling.

Toncan Copper Molybdenum Iron possesses a superior corrosion resistance making it the favored pipe material.

Where corrosion is not a problem, Naylor Pipe can be furnished in steel.

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Those going to the International Petroleum Exposition and Congress in Tulsa, October 4-11, will surely choose the route of comfort and quick time—

And that is via Southern Pacific. Fast trains . . . exceptionally appointed, insuring greatest comfort . . . oil burning locomotives . . . smooth roadbeds . . . convenient departures and arrivals . . . dependable schedules . . . modern luxurious transportation.

From the lower Rio Grande Valley and Corpus Christi, board the fast "Border Limited," connect at Houston with the famous "Sunbeam," then on to Tulsa via Dallas.

From San Antonio, board the popular "Lark," arrive Dallas next morning, then on to Tulsa.

From Lake Charles and Louisiana points, go via Beaumont and Dallas.

From Houston, leave 11:30 P. M. "Owl". Or 12:01 noon "Sunbeam", arrive Tulsa next morning.

Connections from all points in Texas and Louisiana to Tulsa. For utmost comfort and quick time, go via "SP".

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"Sunset Limited" and "Argonaut," companions in travel luxury, from New Orleans via Lake Charles, Beaumont, Houston, San Antonio, and El Paso over the world-famous "Sunset Route."

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"Sunset Limited" and "Argonaut," over the route of romance and interest via historic New Orleans.

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SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

2956 ft. World Oil Co.'s McDowell 3-C, elev 2537 ft, sd 660 ft.

TOM GREEN COUNTY—Belding and Dutton's Norsworthy 1, co 450 ft. Mintex Oil Co.'s Campbell 1, sd 1507 ft. Phillips Pet. Co. et al's Jennings-Gulden 1, dr 3525 ft. D. W. Wiley et al's Ed Maier 1, sd 815 ft.

HOWARD COUNTY—Greene Prod. Co.-Getty Pet. Corp.'s Denman 1, dr 1980 ft, moving in Star machine, 6⅝-in cas set at 1980 ft, cemt 100 sacks; Snyder 1, sp and sd. Meriwether Oil Co.'s Smith 1, elev 2590 ft, top lime 3010 ft, plugged and abn.

HUDSPETH COUNTY—Geo. R. Thieson et al's University 1, 35 ft, sp with water well machine.

IRION COUNTY—Burton et al's Nutt 1, lcn. J. E. Bristow et al's Nutt 1, sd 1449 ft in sand. Central Oil Co.'s Nutt 1, sd 1105 ft. Carl Cromwell et al's Tankersley 1, elev 2520 ft, sd 1710 ft. Straughn & Texannati Oil Co.'s Tankersley 1, sd 200 ft. Webb et al's J. M. Nutt 1, lcn. W. H. Williams 1, sd 100 ft. P. H. Williams et al's Ashe 1, sd 8900 ft. Noelke 1, dr 1135 ft.

JONES COUNTY — G. R. Pope et al's Swann 1, dr 510 ft. McBest et al's Roberts 1, sp and sd.

LOVING COUNTY — Arkansas Fuel Oil Co.'s W. W. Dean 1, bldg rig. California Co.'s Reagan 2, elev 2686 ft, top salt 735 ft, testing oil and water at 4218-21 ft. Reagan 3, elev 2687 ft, top salt 726 ft, dr 3792 ft. Reagan 4, elev 2738 ft, top salt 790 ft, dr 3700 ft. A. R. Eppenauer Drlg. Co. et al's Allen 1, hole jkd at 215 ft. Geo. A. Henshaw et al's Reagan-McIlvain 1, elev 2689 ft, 4228 ft td, shot 150 qts, flowed 326 bbls in 12 hrs. Russell 2, salt 755-4038 ft, top black lime 4227 ft, swab dry after shot 240 qts at 4250-4300 ft. Miller Burge & Healy Chapman 1, top salt 750 ft, dr in lime at 2915 ft. Joe Rush et al's Wheat 1, top salt 785 ft, dr 4100 ft. Lee O. White et al's Russell 1, top salt 750 ft, dr 3320 ft.

MENARD COUNTY—W. C. Barnett et al's Callan 3, elev 2077 ft, sd hfw 1255 ft; Callan 4, machine. L. G. Priest et al's J. P. Sorrells 1, elev 2279 ft, dr 2520 ft.

MIDLAND COUNTY—Kerwin and Nordon Oil Co.'s Mathena 1, sp and sd.

PECOS COUNTY—Barnes et al's Sanford 1, elev 2518 ft, dr 1237 ft, mudded. E. L. Chapman et al's Streety 1, elev 2653 ft, sd 220 ft. Crosby Prod. and Royalty Co.'s Cordova 1, set 6⅝-in cas 2151 ft. Curry and Eakins' Pecos Valley 1, dr 1597 ft, 100 ft oil in hole. C. L. Dittman et al's H. J. Eaton 1, sp and sd; Eaton 2, lcn; Eaton 1, (sec. 37), lcn; J. S. Jackson 1, lcn. Humble Oil & Ref. Co.'s Kokernot 1, elev 3595 ft, top black lime 4153 ft. Mrs. C. L. Thompson 1-B, estimated flowing 100,000 barrels sulphur water and shut down at 1310 ft. Independent O&G Co.'s (Phillips Pet. Co.) et al McDonald 4, elev 2489 ft, sd 2190 ft. Magnolia Pet. Co.'s Byrne 1, dr 1005 ft. Messenger et al's Butz 1, sd 740 ft. Byrne 2, sd 1367 ft. J. R. Miller et al's Bennett 1, sd 1700 ft. J. D. O'Mara et al's Bennett 1, sd 1230 ft. Oregon Oil Co. et al's Yates 2, elev 2565 ft, top salt 710 ft, sd hfw 2440 ft. O. J. Perren et al's Eaton 2, showing oil 1566-68 ft, dr 1660 ft. Pure Oil Co.'s Harrison 1, elev 3495 ft, dr 2037 ft. Rio Grande Oil Co.'s Webb 1, 680 ft, fsh. W. D. Riser & White Riser 1, sd 405 ft. Sides and Cloyds Blackstone-Slaughter 1, sd 2330 ft. N. E. Tanner & Carl Cromwell's University 1, pb from hfw 2150 ft for shot. Williams & Moran's R. G. Heiner 1, rig.

PRESIDIO COUNTY—Brite Prod. Co.'s L. C. Brite 4, elev 4536 ft, sd 2630 ft.

REAGAN COUNTY—Big Lake Oil Co.'s University 4-C, fsh 8220 ft. University 5-U, cemt 13¾-in cas 3030 ft; University 179, cemt cave 4003 ft. Group Number One Oil Corp.'s (Texon) University 4-B, dr 968 ft.

REEVES COUNTY—Biggs & Smith Cherokee et al's 1, sp at 85 ft. California Co.'s Kloh 1, elev 2798 ft, cemt back from 3616 ft. May & Milton's J. B. Ellis 1, sd 1410 ft. Salsbury & Gregory Bell 1, sd 370 ft. Lee O. White et al's Mrs. Lizzie Hersheusen 1, elev 3244 ft, top salt 2670 ft, sd 4415 ft.

RUNNELS COUNTY — Boyce & Labar's

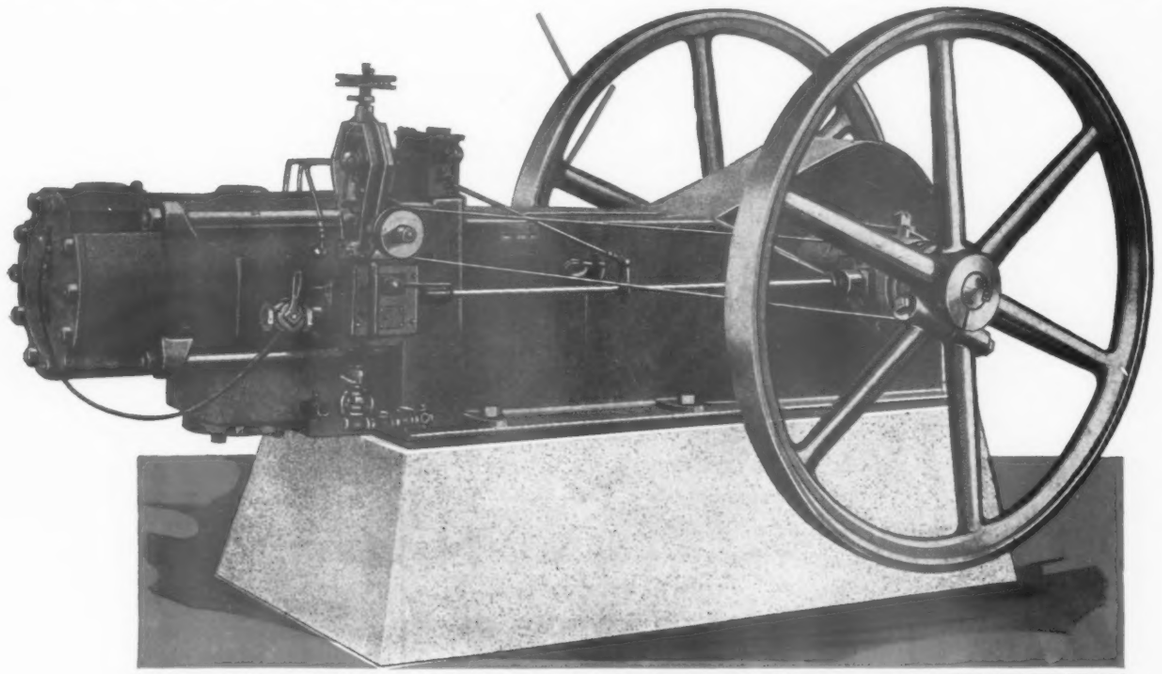
These Features Lift the Franklin Valveless Gas Pumping Engine Out of Competition:

The Franklin Valveless Gas Pumping Engine has 3-point cylinder lubrication, insuring proper and adequate lubrication which tends to keep pistons and rings from frictional wear. Removable and interchangeable bearings throughout. Engine is exceedingly simple in design and piling up record after record for low lifting costs. Point for point, it is a better pumping engine and if your gas supply weakens or becomes uncertain, it may be changed to an oil engine in an hour and a half. We urge every producer to investigate this engine before buying.

Franklin Valveless Engine Company

Franklin, Pennsylvania

OILWELL SUPPLY CO.



FRANKLIN VALVELESS O.G. PUMPING ENGINE

Lange 1, elev 1844 ft, sd 2643 ft. Chas. Dutton et al's G. W. Dean 1, sd 1330 ft.

SCHLEICHER COUNTY — Delmar Oil Co.'s O'Harrow 1, elev 2421 ft, dr 5100 ft. Phillips Pet. Co. et al's J. A. Whitten 1, elev 2333 ft, pb from 6880 ft to shoot again at 4915-25 ft. Munger-Wilson Oil Co.'s Page 1, elev 2270 ft, fsh 4912 ft. Paul Trees and Walter Gant's Allison 1, dr 3555 ft. J. D. Weener et al's R. E. Ratliff 1, sd 750 ft. Westyde & Moody Corp.'s C. L. Meador 1, lcn.

SCURRY COUNTY — J. G. Armand & Camp Springs O&R Co.'s Strayhorn 1, ur 750 ft, 8¼-in cas. Quinn 1-A, elev 2316 ft, plugging 4373 ft. D. H. Byrd & H. A. Harmon's Murphy 1, elev 2298 ft, top salt 775 ft, top pay 1750 ft, hole caving, no test. R. B. Pender O&G Co.'s Davis 1, elev 2208 ft, top salt 445 ft, co 4970 ft, 6⅝-in cas. Mid-Kansas O&G Co. and Vacuum Oil Co.'s Peckham 1, elev 2155 ft, dr 3946 ft, 8¼-in cas. J. B. Mims et al's S. Koonsman 1, sp and sd.

STERLING COUNTY—W. C. Beesley et al's W. L. Foster 1, sp and sd.

TAYLOR COUNTY—W. G. Clark & Humble O&R Co.'s Kendall 1, sd 2305 ft. Eastland Oil Co. et al's Hunter 1, ur cas after swab 190 bbls at 2380-89 ft. Gibson-Johnson et al's Bingham 1, sd 2460 ft. H. B. Herring-Hucony Gas Co. et al's Richie 1, dr 2235 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, dr 6165 ft. Sanger et al's Abilene Fee 1, rig. Sanger O&R Co.'s Osborn 1, rig.

TERRELL COUNTY—Big Bend Oil Corporation et al's Bassett 1, sd 2180 ft. Mid-Kansas O&G Co.'s Goode 1, elev 2405 ft, fsh 5229 ft.

VAL VERDE COUNTY—O. O. Owens et al's H. Y. J. Mills 1, elev 2130 ft, straightening crooked hole at 6760 ft. Phantom Oil Co.'s Ingram 1, sd 3035 ft.

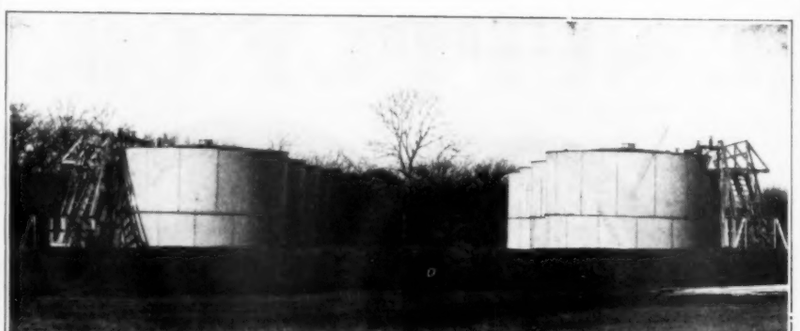
UPTON COUNTY—Gulf Prod. Co.'s King 1, rig. Penn Oil Co. & Shell Pet. Corp.'s M. M. Anderson 1, rig.

WARD COUNTY—Atlantic Oil Prod. Co.'s W. W. Thomas 1, top salt 2244 ft, showing oil and gas, took 25th core at 2588-92 ft, shot at 2607 ft, flowing 10 bbls of oil and 5 bbls of water. Atlantic & Penn Oil Co.'s Bennett 1-B, elev 2578 ft, top salt 2075 ft, flowing oil by heads and running tapered tubing at 2550-2607 ft. Bradford et al's Murry 1, top salt 790 ft, sd with 1200 ft oih 2212 ft, td Gulf Prod. Co.'s Hutchings 4, elev 2639 ft, making 25 bbls oil and 11,960,000 ft gas 2565-2765 ft. Hutchings 5, elev 2679 ft, top salt 1205 ft, flowed 110 bbls oil and one million cu ft gas 2555-85 ft. O'Brien 13, dr 2050 ft; O'Brien 14, top salt 932 ft, dr 2150 ft. Magnolia Pet. Co.'s Sealy 1, dr 1290 ft. R. F. Owen et al's Johnson 1, sd 1205 ft. Sid Richardson et al's O'Brien 4, elev 2655 ft, top salt 1136 ft, dr 2560 ft. Shipley Oil Co.'s Monroe 1-A, elev 2655 ft, top salt 2485 ft, sd 2520 ft. Texas-Pacific Coal & Oil Co.'s M. Barker 1, dr 310 ft.

WINKLER COUNTY—Champion-Winkler Corp.'s (W. H. Wilson) Campbell 1, sd 4639 ft. Jeffrey et al's Brown 2, sd 3120 ft. Empire Gas & Fuel Co.'s Daugherty 1, rig. Magnolia Pet. Co.'s Scarborough 3, dr 250 ft. L. C. Turman et al's Daugherty 1, sp.

MITCHELL COUNTY—Gibson & Johnson's W. T. Scott et al's 3, 1300 ft, sd. Earl Morrison et al's F. Morrison 2, 3112 ft, sd, shot 270 qts, swabbed 40 bbls. Earl Morrison et al's J. N. Poe et al, sp 10 ft, sd.

EL PASO COUNTY—Lane Tex Oil Co.'s W. D. Malone 1, 3089 ft shale, sd.



Maloney *Vapor-Pressure Construction Includes:*

12-gauge (or heavier) steel—½-inch bolts—heavy 2x2 angle reinforcements and ties—wide gussets on ties and ladders—valves set at 16-oz. pressure and 2-oz. vacuum—high grade aluminum paint.

"Alone in Quality"

MALONEY TANK MFG. CO.
Tulsa, Oklahoma

Distributers at All Principal Petroleum Points

Sizes: 12 to 10,000 Barrels

Packed in Steel-Bound Crates for Export

MADE OF KEYSTONE AMERICAN

MALONEY

LETTERS

"Since July 25 number you have omitted permits granted for new wells. Also under Wildcats From All Sections you omit North Central Texas. This being the home of the small independent operator, the above information which has been omitted, was the most value of anything printed in The Oil Weekly, to the independent. Would like to ask if this information is to be discontinued through your publication?"

DICKEY OIL CO.,
Cisco, Texas.

"It has been noted that one of the departments of The Oil Weekly—that entitled 'Permits Granted for New Wells,' has been dropped from the last five issues of the Weekly. The detailed information given in these permits is of very great use in locating oil wells on the progress maps which are being compiled in the Fuels Section, Geologic Branch of the Geological Survey. I am informed by the clerks who compile these maps that The Oil Weekly has been largely depended on for exact locations of wells in certain sections such as the Gulf Coast of Louisiana. It is hoped, therefore, that the permit department will not be missing in future issues of the Weekly."

JULIAN D. SEARS,
Acting Director, U. S. Dept. of the Interior. Geological Survey.
Washington.

Permits for new wells, or first reports, it has been decided by the editors, is of less value to readers than is information on engineering and technical subjects for which the omission makes more space. However, if wildcat reports on Southern Louisiana are watched carefully, location of new wells started in that area can be checked from that source.

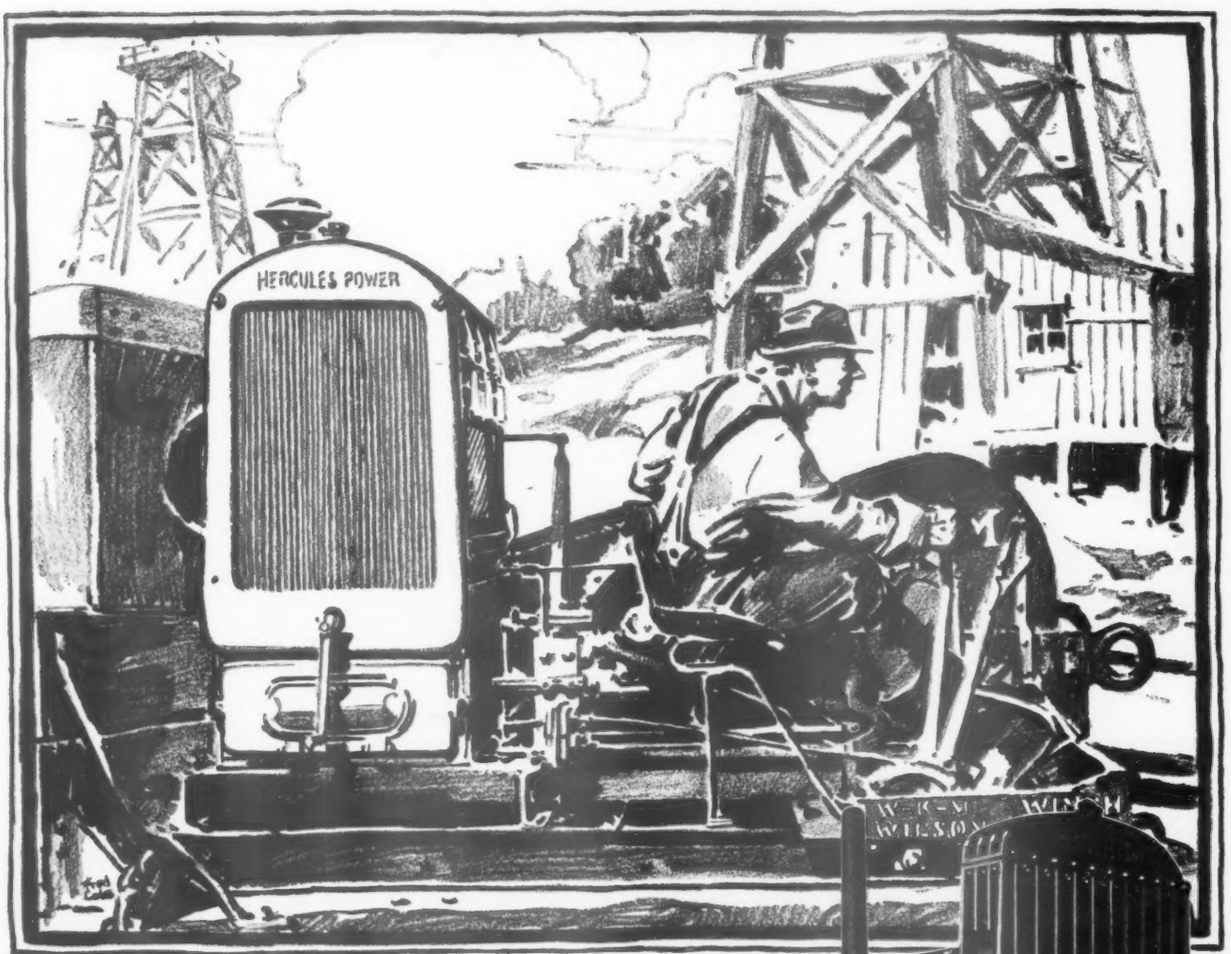
"I have been buying THE OIL WEEKLY from news stands from time to time, for several years, and I have been waiting for some time for my liver to be sufficiently deranged to light in on you.

"I think it would be a great improvement if you would perforate the pages near the binding of those thick sheets placed inside that ought to be where the covers are if included in your magazine at all.

"They are in the way when one wants to find an article hurriedly, and I find them a little hard to tear out. I understand that they are supposed to be in the way—that is why they are made thick. It is a sort of obstrusive advertising, commanding attention by virtue of its

(Continued on page 112)

HERCULES ENGINE POWERS THE W. K. M. WINCH

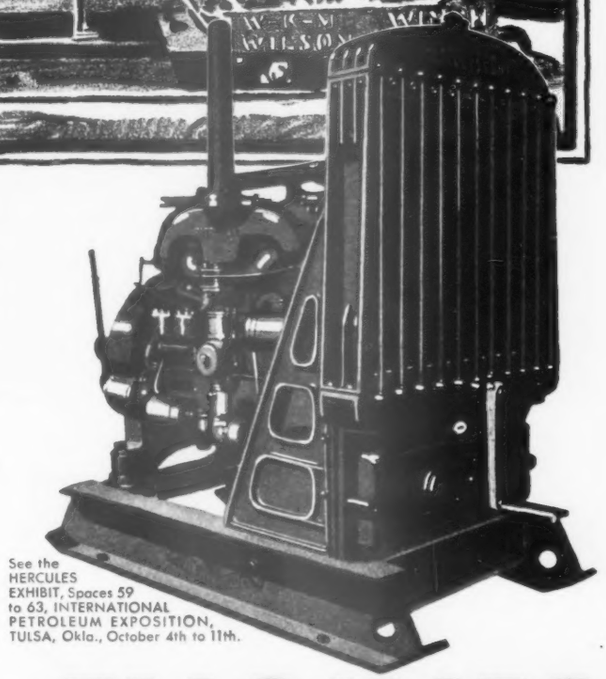


Many things account for Hercules' supremacy in the heavy-duty power field: Advanced engineering. Simple, sturdy construction. Dependable, low-cost performance. Hercules Engines and Power Units are available for oil-field service in a complete line of Four and Six cylinder models, ranging in size from 15 to 175 H. P. Leading manufacturers of producer's equipment are standardizing on Hercules Power.

HERCULES MOTORS CORPORATION
Canton, Ohio, U. S. A.

Eastern Branch: New York, New York
Mid-Continent Branch: Tulsa, Okla.
West Coast Branch: San Francisco, Cal.

Distributors: Smith-Booth-Usher Co., Los Angeles, Cal.; Edward R. Bacon, San Francisco, Cal.; F. C. Richmond Machinery Co., Salt Lake City, Utah; Worthington Machinery Corp. of Oklahoma, Tulsa, Okla.; Norvell-Wilder Supply Co., Beaumont, Texas; Bovaird & Co., Bradford, Pa. European Distributor: Automotive Products Co., London, Berlin, Vienna.

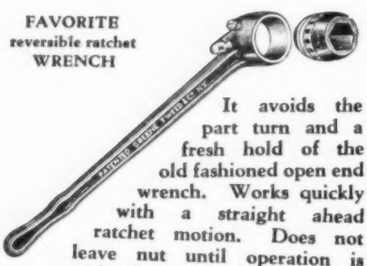


See the HERCULES EXHIBIT, Spaces 59 to 63, INTERNATIONAL PETROLEUM EXPOSITION, TULSA, Okla., October 4th to 11th.

HERCULES ENGINES

To cut out all the lost motion of nut turning use the

FAVORITE reversible ratchet WRENCH



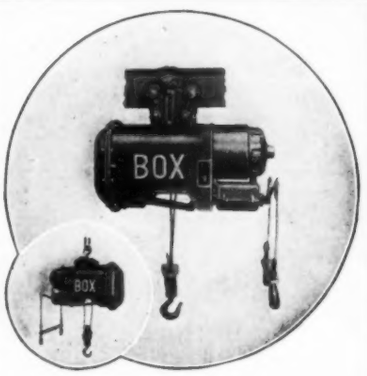
It avoids the part turn and a fresh hold of the old fashioned open end wrench. Works quickly with a straight ahead ratchet motion. Does not leave nut until operation is completed—no slipping.

Write for particulars

BUILT STRONG FOR ROUGH USAGE

Greene, Tweed & Co.

Sole Manufacturers
109 Duane St., New York



BOX

CRANES & HOISTS

All Types

Electric and Hand Operated

Prompt shipments from factory

Maintenance Engineering Corporation

1400 Conti St. Preston 2274
HOUSTON, TEXAS
500 E 9th St. Phone 2-2148
FORT WORTH, TEXAS

THE FT. WORTH LABORATORIES

Field Gas Testing. Analysis of oil field brines, gas minerals and oil. Sell Thermometers, Hydrometers and Laboratory Glassware.

F. B. Porter, B. S., Ch. E., Pres.
R. H. Fash, B. S., Vice-President
828½ Monroe St. Ft. Worth, Tex.

nuisance, something like the tags attached to the telephone directories which have long since been discarded.

"A salesman walking into a purchasing agent's office and kicking him on the shins to make him look up, would only be the extreme of the form of appeal resorted to, in my opinion, in inserting these thick sheets to command attention by virtue of their nuisance. As I have indicated, it is a mild form and perhaps requires a bad liver to cause a protest, but I imagine it brings a subconscious reaction to most readers.

"Having gotten this trivial matter off my chest, I am now,

Less grumpily yours,
NAT U. COLLIER,
Ass't Secretary State Land Oil Co.
Houston, Texas.

Sorry that Mr. Collier finds the weight of special inserts annoying, but perhaps some advertisers believe that some purchasers need to be kicked on the shins. Anyway, THE OIL WEEKLY is glad he is now a regular subscriber and as such he should appreciate that the revenue from these annoying ads, which pay preferred rates, is needed to keep live reading matter, which invariably appears, on the opposite pages. And, anyway, Mr. Collier, just see what revenue your home town postoffice gets out of those heavy pages.

"Your supply of good jokes must be plentiful lately. In your issue of September 5, you even have an excellent joke under the heading 'letters' instead of under 'Squeaks from the Bull Wheel'. Please, let's have some more fun like that. Laughing is so healthful!"

Yours truly,
O. HEIDECKE,
Palestine, Texas.

Evidently, Mr. Heidecke is a geophysist. The letter to which he refers was written by one who evidently has a peeve against the more modern method of seeking oil deposits.

General Land Office Maps of all Texas Counties

PHOTOSTATS

MAP MOUNTING

Map Reproduction from White or Blue Prints

TEXAS BLUE PRINT & SUPPLY CO.
1013 Capitol Ave.
HOUSTON, TEXAS

HEYDRICK'S NEW MAPS

WEST TEXAS

County Maps

Combination Maps

Descriptions and prices on application

HEYDRICK MAPPING COMPANY

Wichita Falls, Texas

McCollum Exploration Co.

Contracts taken for Seismograph Work

UNITED STATES
5522 Connecticut Ave.,
WASHINGTON, D. C.

FOREIGN COUNTRIES
1211 Esperson Bldg.,
HOUSTON, TEXAS

INTERNATIONAL IRON & SUPPLY CORPORATION

Second Hand Pipe, Casing, Tubing Oil Well Supplies

2009 Quitman Street Houston, Texas
Phone Capitol 2201 - 2202

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JESSE R. STONE
and LESTER B. CLARK

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Specializing in Oil Law and Land Law

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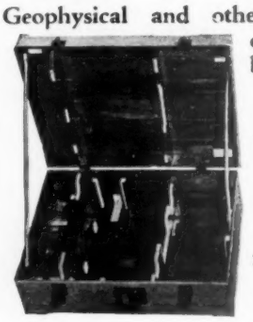
HARDWAY & CATHEY
428-29-30 Bankers Mortgage Bldg.
Phone Fairfax 8232 Houston, Texas

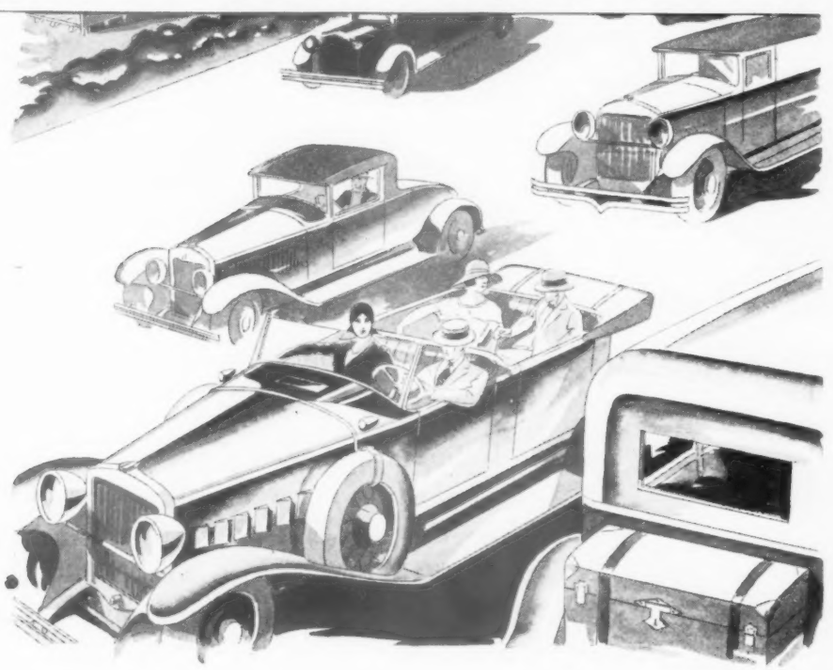
Geophysical and other instrument cases, tool boxes, etc.



Made from finest woods.

ART TABLE CO.
1203 W. Webster Street,
Houston, Texas

MANY MODERN WONDERS HAVE NOW BECOME COMMONPLACE



AUTOMOBILES were an exciting novelty not very long ago. And still more recently Wm. S. Barnickel startled the world with his successful process for recovering all the oil from "cut oil" and "B. S." . . . Today oil men with trips to make and "cut oil" problems to solve use motor cars and Tret-O-litE as a matter of course . . . Experienced operators have for years been familiar with the certainty, the thoroughness and the economy of the Tret-O-litE process.

Call in the Tret-O-litE representative whenever you are troubled with "cut oil." Use our experience without cost to you.

WM. S. BARNICKEL & COMPANY

ST. LOUIS, MISSOURI

Offices and Plant, Webster Groves, St. Louis County, Missouri

Tret-O-litE

Reg. U. S. Pat. Off.

IN line with the policy of General Industry today the Oil and Gas Industry is looking to Economy in operations. The bulk of buying is of equipment serving the purpose of cost cutting. Among the most expensive items of the industry is casing in a dry or depleted well. Salvaging of good pipe is one of the greatest steps toward real economy.

In line with present-day economy in the Oil and Gas Industry we are shortly placing on the market two new Casing Cutters (DANCO INSIDE and OUTSIDE CUTTERS) which will enable the operator to pay for the tool from the salvage value of a single well.

Complete information and prices will be forwarded upon receipt of the coupon below—

STANDARD DAY-A-NITE COMPANY,
1212 Nance Street,
Houston, Texas.

Please mail me complete information and prices on your casing cutters.

Name .....

Address .....

Company .....

New Equipment for the Field

Machinery - Tools - Catalogs - Books

"Vulcan Boll-Weevil" Tongs

J. H. WILLIAMS & CO.

Vulcan Boll-Weevil Tong

J. H. Williams & Co., Buffalo, New York, has introduced the "Vulcan Boll-Weevil" tongs for the oil fields, a tong designed primarily to eliminate the work of holding up heavy tongs against the pipe from below until the chain is wrapped around and hooked in. To operate, this tong is laid on top of the pipe and the chain hooked around the pipe. The tong is then ready for either "making up" or "breaking out."

For "making up," the tongs are slid forward so that the rear end of the jaws engage the pipe, and the handle is pushed down. For "breaking out," the tongs are pulled back to engage the forward teeth with the pipe, and the handle pulled up. The arc of the jaws and shape of the teeth are designed to give a positive bite and the jaws are reversible. Four sizes, for use with ¾ to 12-inch pipe, are made.

The company will furnish completed details upon request.

Cement Guide and Collar

BAASH-ROSS TOOL COMPANY

Baash-Ross Tool Company, Los Angeles, is marketing an improved type of cement guide and collar for uniform distribution of cement all around the casing.

The distinctive feature of these tools is a rotor, similar to that of a steam turbine or centrifugal pump, which moves freely in a groove in the body. Cement is forced through a series of radial holes, striking the vanes of the rotor, causing it to revolve. The effect is the same as though the casing revolved, throwing the cement outward with a whirling or centrifugal motion in a continuous stream which fills the surrounding space.

Cementing Guide, Special Pattern

Baash-Ross Centrifugal Cementing Guide

Cementing Collar

This construction is to prevent leaving passages through the cement, which defeat the purpose of the cementing as a complete seal.

Three types are available; the regular cementing guide, the special guide, and the cementing collar. The regular guides and the collars distribute the cement horizontally. The special guide has its rotor mounted at a 45-degree angle toward the bottom of the well, to produce an effective seal below the edge of the shoe.

The guides are made of cast iron, and may be drilled through after cementing is complete. They are furnished with or without casing shoes. The collars are designed to be installed at any distance above the guides where distribution of cement is desired, and are provided with cast iron diamphragms below the rotor which may be drilled out as required.

Bulletin 81, supplied on request by the Baash-Ross Tool Company, 1297 Arcade Station, Los Angeles, gives complete information about these cement guides and collars.

Sump Pump

CHICAGO PNEUMATIC TOOL COMPANY

Chicago Pneumatic Tool Company, 6 East 44 Street, New York City, describes its new Quimby sump pump as an air-operated pump driven by the Chicago Pneumatic No. 88 rotary air motor. It weighs 44 pounds and has a capacity of 100 gallons per minute at a 28-foot head.

To operate the pump the motor is started before submersion and the complete unit lowered into the hole or pit to be drained. The fluid is pumped steadily without priming of the pump. Exhaust air from the motor serves to rid the hole or pit from dangerous gases and fumes while pumping.

By using a 2½-inch water hose for an outlet and a ¾-inch air line, this tool may easily be taken from one job to another, eliminating the use of pipe or heavy reinforced hose.

Quimby Sump Pump

Upon application to a representative of the company this pump will be demonstrated, or detailed description will be mailed upon request.

NEW EQUIPMENT FOR THE FIELD

Bal-Re-Nu Check Valve

Check Valve

OIL FIELD ENGINEERING CORPORATION

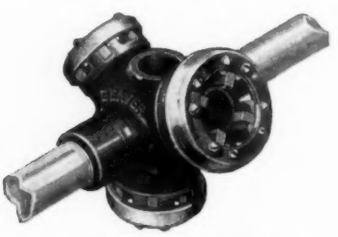
Oil Field Engineering Corporation of Fort Worth is now manufacturing and marketing a new check valve which may be installed on any line to handle fluid.

This valve, called "Bal-Re-Nu" has been patented by C. S. Jones and Leidecker of Tulsa, who have licensed Oil Field Engineering Corporation as sole manufacturers and distributors for the new product.

The construction of the valve is an adaptation of the familiar oil filled ball and seat to a valve installation. When the ball or seat becomes worn, it is easy to unscrew the top and cage, remove the worn parts and substitute new ones. Petroleum Equipment Company's Nu-Alloy, Nu-Bronze or Nu-Steel balls and seats are being used in the valves.

Cooper-Bessemer Corporation, Mt. Vernon, Ohio, announces that the 24-page bulletin, "New Type-10 Compressor Unit," is just off the press and is ready for mailing. The bulletin gives up-to-the-minute information on the improved 100 B. H. P. single and 200 B. H. P. twin unit. A new compressor cylinder, a gas economizer and other field-proved features are shown and described, together with representative installations of this two-cycle gas engine compressor. Intended for engine buyers and for anyone who wishes to keep posted on power machinery developments, the bulletin is available upon request to Mt. Vernon, Ohio, or any of the Cooper-Bessemer offices.

Beaver Three-Way Die Stock



THE BORDEN COMPANY

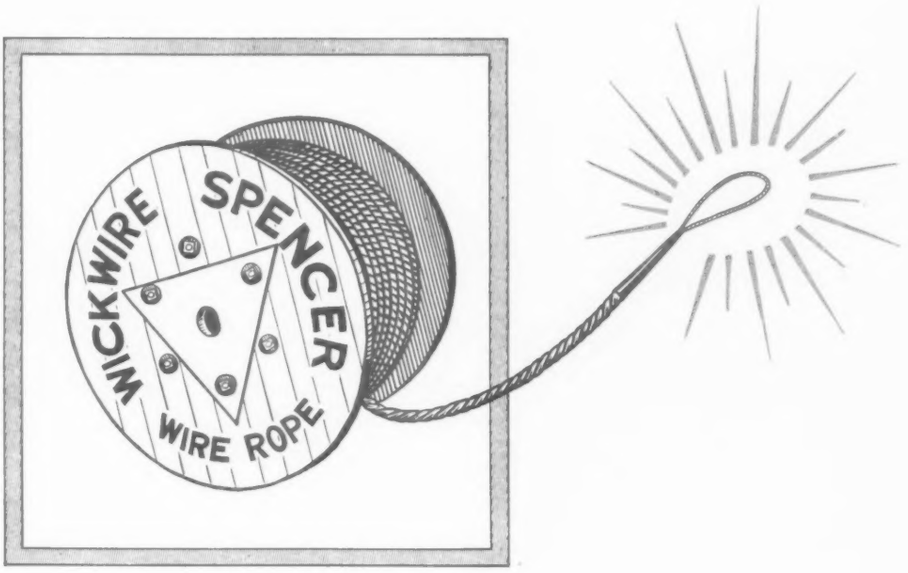
The Borden Company, Warren, Ohio, announces the new Beaver Three-Way die stocks, companion tools to the No. 3 Beaver Jr. ratchet, dies and caps being interchangeable between the two tools.

The Beaver 3-Way tool has electrically heat-treated die segments which are square in shape. They are driven by the solid body of the tool rather than by a cap held on the body by screws. Large openings in the body provide easy oiling and chip clearance.

The die retaining ring is made of pressed steel and a "pinch" of 1/32-inch holds the dies in position. Extra-heavy and long handle bosses have been provided. The dies are full width and serviceable for threading steel, wrought iron or brass pipe.

The dies may be inverted for threading short nipples when this is required.

Complete information on this new tool is available upon request to the manufacturer.



«THIMBLES»

for "ROUGHNECK" Sewing circles!

Reaving the blocks with a drilling line is a mean job, even under the most favorable conditions. One of the meanest features is having to work with a line-end bristling with sharp, cutting strands of wire, "chawed" off with a cold chisel. Almost always, some member of the crew winds up with lacerated hands or arms.

Along comes Wickwire-Spencer with an antidote for this, and a simplifier of the whole job. Simple enough, yet something the "roughnecks" will bless them for. It's a heavy metal thimble on the end of the line they work with, a thimble equipped with a wire loop for attaching the cat line. The thimble makes threading easy, and couldn't scratch a varnished table. It stays on the line throughout its life, always ready, always protecting hands and arms.

Just a final touch of thoughtfulness added to a wire line already ranking supreme in the field; a friendly gesture of appreciation to the field men who have put Wickwire - Spencer high among the leaders.

In the Gulf Coast you get them at WORD'S, of course!

"The best known WORD in the oil business"

T. T. WORD SUPPLY CO., INC.

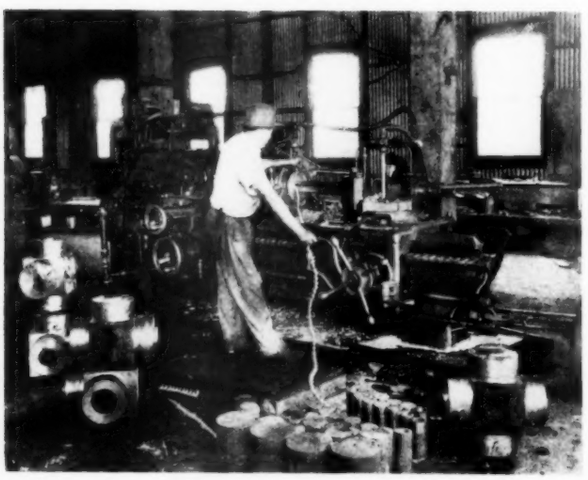
Lake Charles HOUSTON Seguin

Shreveport

P. O. Box 276

Phones: DAY: Preston 1927
NIGHT: Val. 21022
Hadley 1973

Manufacturers and Supply Dealers Notes



Standard Day-A-Nite Company's 1212 Nance street shop, Houston, turning out 6⅝-inch Danco crosses and other Danco high pressure fittings from the solid steel forgings seen in the foreground, using a Shipley 3-A turret lathe.

After October 1, 1930, the general office and main sales office (exclusive of sales of special drop-forgings to order) of J. H. Williams & Co., will be consolidated with its present Eastern sales office and warehouse at 75 Spring Street, New York City. This move is being made chiefly in the interest of more frequent contact with customers and of closer concentration of its sales ectivities.

A service department will be retained at Buffalo to represent the sales department at the factory in giving special attention to the orders of customers and of the New York and Chicago warehouses.

Baash-Ross Tool Company is expanding its Oklahoma City plant approximately 50 per cent, Dick Clark, vice president and sales manager, and Edwin Burns, assistant general manager, announced recently following their return to Los Angeles from a two weeks trip to Oklahoma and Texas fields. This plant, which maintains regular Baash-Ross stocks of tools and parts, now has facilities for drilling drill collars and stems up to 51 feet in length. The plant is under the direction of George Dewney and maintains a 24-hour service to the fields.

Arthur J. Pennick, president of the Oil Center Tool Company, Houston, Texas, is making an extended business trip through West Texas, New Mexico and Oklahoma. He will spend some time in Hobbs field, New Mexico, where several of his company's products are being used.

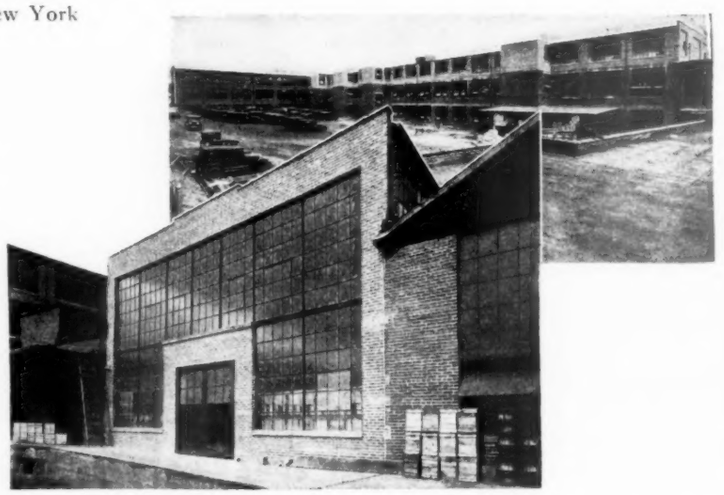
American Tank & Equipment Corporation, Oklahoma City, subsidiary of Black, Sivalls & Bryson, Inc., Bartlesville, Oklahoma, has completed a welded building at its shop, which is the largest factory of its kind west of Chicago. This concern specializes in welded work to a material degree, although some riveted work is done. The company has an electrical welding machine and is building one of the largest heat treating furnaces in the country. This will be used to anneal or heat treat the heavy vessels that have been welded so as to equalize stresses and assure full strength of the metal.

American Engineering Corporation has been formed in Tulsa and will have offices in the Philtower building. Its officials are Olen W. Noel, president; Ralph E. Zinn, vice-president and Harry V. Lindy, secretary and treasurer.

The firm will do a general engineering and appraisal business, as well as contracting construction in the petroleum and public utility fields.

Iron & Steel Products, Inc., Chicago, has been organized by Frank Parker, who resigned his position as vice-president of Briggs & Turivas, Inc., Blue Island, Illinois, effective September 1. Offices are in the Railway Exchange, Chicago.

Parker's service in the iron and steel industry dates back 25 years when he joined Republic Iron & Steel Company, now Republic Steel Corporation. Following 12 years with that organization he went with Briggs & Turivas. He is a chemical and metallurgical engineer, and is now president of the Chicago chapter of the Institute of Scrap Iron & Steel, Inc., general offices in New York City.



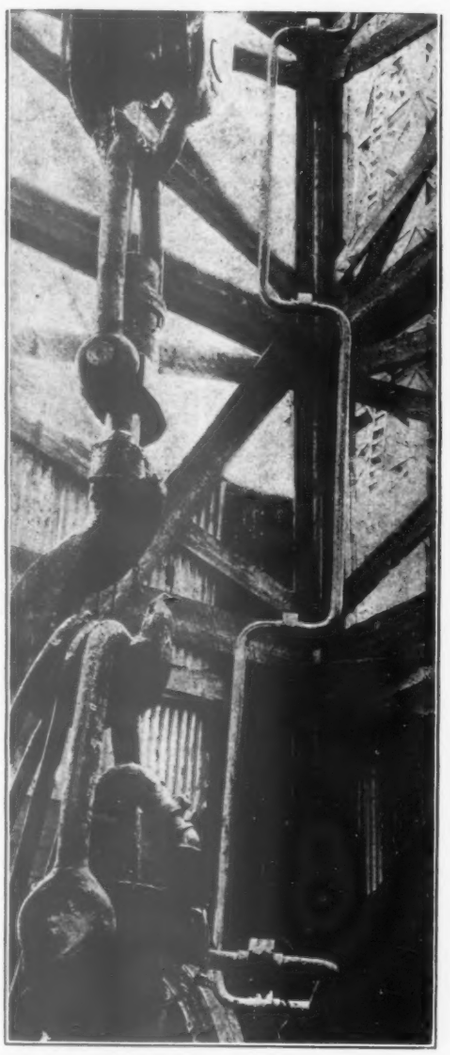
Pittsburgh Equitable Meter Company has completed work on two new additions to one of its Pittsburgh plants, which is pictured here. Approximately 100,000 square feet of additional space is available through these additions. Much of the modern equipment being installed in this new addition has been designed by EMCO engineers. These additions mark the fourth addition to Pittsburgh Equitable Meter Company plants within two years

It has maximum flexibility under high pressure ...one reason MacClatchie's new hose is selling faster

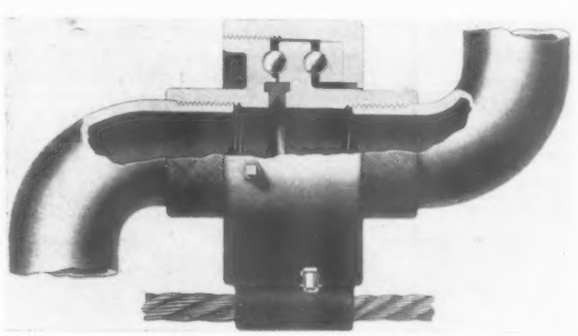
When the pumps are compounded and you're digging deep, you can put your MacClatchie All-Steel hose to the test . . . . it will not only be leak-proof but it will be flexible . . . easily handled. Convenience is not sacrificed in its construction, even though it is built to withstand the greatest pressures.

It was designed to overcome just such difficulties as binding and cramping. Like all other MacClatchie specialties it was developed by men who are constantly in the fields, talking to the men on the rigs. Built to specifications suggested by field men, its reception has more than justified its introduction. Such a hose was needed . . . our orders prove that.

The hose has an unobstructed fluid course with no sharp bends, and is designed so that it can be placed in every practical position. The simplicity of design makes possible a surprisingly low price . . . . a price that brings it within the reach of even the smallest operator. It is backed by an absolute guarantee to out-perform any other metal hose and to save you money. We will be glad to send you a hose on trial and if you are not entirely satisfied it will cost you nothing. If you wish further information, use the coupon placed below for your convenience.



A HOUSTON BRANCH and warehouse has just been established at 7211 Sherman St., Houston, Texas. A complete stock of all MacClatchie equipment is maintained there. Stocks also carried at Bakersfield and Ventura, California.



Cut-away view of swivel joint. The five-section hose 37' long, is standard, but any other assembly is immediately available, in either 2½" or 3" size.

OW 9-30

MacCLATCHIE MANUFACTURING CO.,
Compton, Calif.

Gentlemen: Please send me all details and prices on the MacClatchie All-Steel Rotary Hose.

Name

Position Company

Address

SQUEAKS FROM THE BULL WHEEL

"How did you happen to take that poison? Didn't you read the sign on the bottle? It said 'Poison.'"

"Yassah, but Ah didn't believe it."

"Why not?"

"'Cause right underneaf it was a sign which said, 'Lye.'"

"Yassah," said old Link, "business very good. Done bought a pig fo' ten dollars, traded pig fo' a barrer, barrer fo' a calf, calf fo' a bicycle, and sol' de bicycle fo' ten dollars."

"But yo' don' make nothin', Link!"

"Sho' 'nough, but look at de business Ah been doin'."

There was a large woman by the name of Mrs. Hoke that wore kinda unbecoming clothes, and one day she went to visit the John Jelks family. Little Bobby Jelks was a great kid for listening to the conversation of his elders and salting down any learning he could get out of it. He was a smart kid.

So when Mrs. Hoke came in this kid looks her over. Then he walks all around her and looks her up and down.

Mrs. Hoke smiled at him and says: "Hello, Bobbie. What are you looking for, huh?"

"Looking for elephants. You got any elephants or giraffes or lions with you?"

"No, not one. I see you like animals."

"Yeah. Got any ponies or ant-eaters or nuffin with you?"

"No, of course not. How do you expect me to carry around such a menagerie with me, Bobby?"

"Well, you did the other day."

"What day? What do you mean?"

"Well, anyhow, mama told papa at dinner that she seen you on the street and you looked like a circus."

"How would this cloth do for your new dress?"

"It wouldn't do at all. Nobody's wearing that."

"Well, here's something else. How's this?"

"Oh, that wouldn't do either. Everybody's wearing that."

"You play bridge a good deal, don't you?"

"Yes, and if I got a good deal oftener I'd play a good deal better, too!"

"O dear, O dear, I dreamt that you had died."

"Don't cry, Dear. Why let a bad dream upset you so? I'm still with you."

"Yes, I know, Darling, but I was about to cash your insurance check when the alarm woke me and spoiled it all."

Sister's Beau: "You didn't expect to see me here tonight, did you?"

Sister's Little Brother: "Naw, Sis didn't put your picture on the piano till after you rang the doorbell."

"It is the duty of every one to make at least one person happy during the week," said a Sunday school teacher. "Have you done so, Freddy?"

"Yes," said Freddy promptly.

"That's right. What did you do?"

"I went to see my aunt, and she was happy when I went home."

I have discovered what it is that destroys a man's memory completely.

What is it, alcohol or tobacco?

Neither; it's doing him a favor.

Soph: Come on, take a bath and get cleaned up. I'll get you a date.

Frosh (cautiously): Yeh, and suppose you don't get the date.

"How did Oscar happen to lose control of his car at the railroad crossing?"

"He's the kind of a fellow who always drops everything when the whistle blows."

"Joe has a glass eye."

"Did he tell you that?"

"No, it just came out in the conversation."

Visitor (speaking of small boy): "He has his mother's eyes."

Mother: "And his father's mouth."

Small Boy: "And my brother's pants."

I seem to have run out of gas, he said, and muttered to himself.
Here is where I do some fast work.
The girl's face, small and white, was turned up to his,
And eyes, glowing dizzily from beneath heavy lids,
Her red lips were parted and she sighed faintly
He bent over her—
And then—
He yanked out a tooth.
He was her dentist.

Driller: 'Can you use the word "satiate" in a sentence?"

Roughneck: "I took Mary to lunch today, and I'll say-she-ate.

FOR STRAIGHTER HOLES

Use Appleman Gumbo Bits

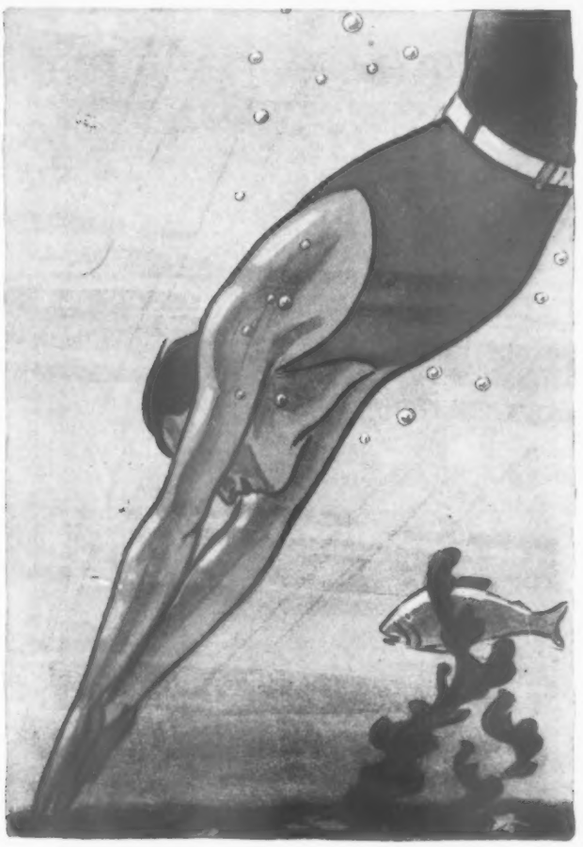
Because less weight is needed to feed the Appleman Bit it drills a straighter hole. With the weight indicator reading 1000 to 3000 pounds pressure—never more than 3000—this bit gives the most excellent performance. There is less possibility of ruining the wall and wiping out is practically obviated.

SPEED

The Appleman Bit gives speed which eliminates wasted time, labor and materials. Its self-sharpening principle, effected by the concave shape of the blades and the hard facing which permits wear on the back to retain sharp cutting edges, contributes greatly to its speed. Another speed-giving feature is that straight water courses lead directly to the cutting edge allowing the rapid breaking up and washing away of cuttings. This means NO CHOKING UP.

Write for Complete Information.

B.K. APPLEMAN
BEAUMONT, TEXAS



Right to the Bottom!
with

SIMANCRO CASING

New—modern—exclusive—this high tensile alloy steel casing combines super-strength and toughness,—vital properties when deep drilling hazards are encountered.

New, and yet proven, as evidenced by the fact that over several million feet have already been used without a single failure.

Available in 95,000 pounds and 110,000 pounds minimum tensile grades.

SPANG, CHALFANT & CO., INC.

General Offices: **CLARK BUILDING, PITTSBURGH, PA.**

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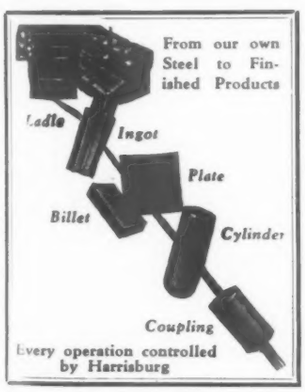

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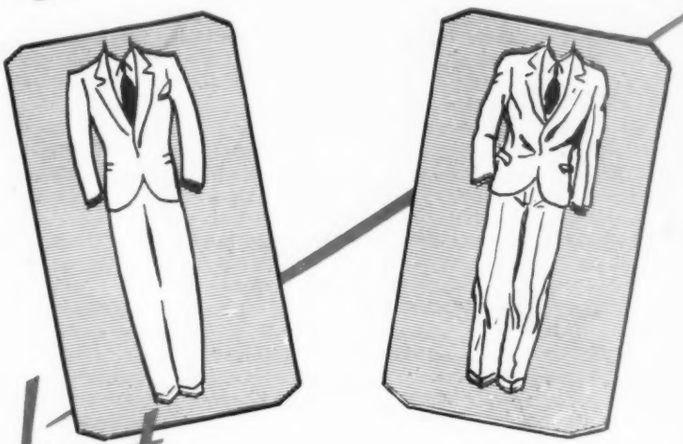
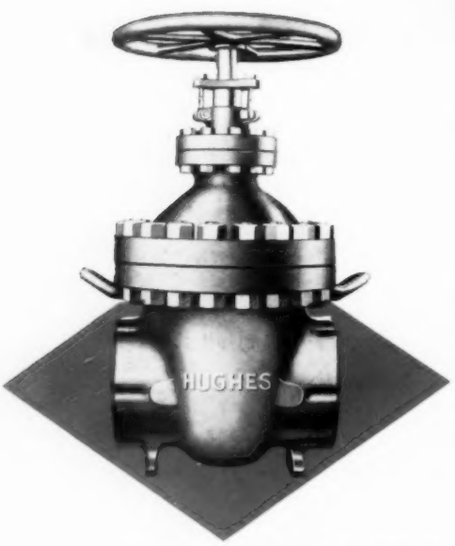
On the Counter these suits "looked" the same



but

one was WOOL ..the other COTTON



—There's very little difference between a wool suit and a cotton suit—*the first day.* It's the days that follow that bring out the value.

—It is the same with steel.

—The design of Hughes Tools may be duplicated—have been and will continue to be—because their design has been proven correct by years of service. However—the performance of Hughes Tools results chiefly from the use of a superior material—a higher degree of skill in workmanship—a more complete knowledge of the problems for which the tools were designed.

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